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CRITICAL

REFLECTIONS

UPON THE

EMMENOLOGY

OF

Dr. *FREIND.*

BY

Dr. LE TELLIER, a *French* Physician.

Translated from the FRENCH.

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PREFACE.

THE beſt Preface, in my Mind, that can be made to this Book is, a Quotation out of itſelf, p. 59. where the Author, as in a Sort of Corollary, drawn from his own Reflections, ſays:

" From the Reflections that have
" been hitherto made, it may be ga-
" ther'd, that 'tis by no Means, an
" indifferent Matter in Practice, to
" adopt

" adopt indifferently, the Syſtem of
" the Rupture of the Veſſels, or that
" of the Intruſion of the Blood into
" the lymphatick Canals: It is of
" the higheſt Conſequence, to chuſe
" either the one or the other, to liſt
" on one Side or the other, and to
" appear more than ordinarily engaged
" or concern'd therein. If the Diſpute
" here was only about ſome inſipid,
" barren Point of Speculation, amu-
" ſing perhaps to the Curious, but
" altogether uſeleſs, and without In-
" fluence on Practice, thoſe who
" regard Things only as they are uſe-
" ful, might perhaps ſlumber over

" it:

" it: But as our Buſineſs is here
" about a capital Point, which affects
" and concerns Practice to the higheſt
" Degree; ſince in the two Hypo-
" theſes the Manner of Cure is quite
" different; this ought to awake
" the Attention of all Practitioners,
" inſpire them with an extraordinary
" Reliſh for the preſent Subject, and
" rouze them totally out of their
" Indifference.

And this ſhould, indeed, rouze out of their Indifference, not only all Gentlemen of the Faculty, but even, methinks, ſhould tempt all Gentlemen, who are (as all Gentlemen

ſhould

ſhould be) Men of Learning, to ſtudy this Point, on purpoſe to concern themſelves in this Controverſy, as it regards the Well-being of the Fair Sex, the lovely Fountain whence, under Heaven, we all have our Being; Women! to promote whoſe Health and Happineſs, the Man that is not ambitious, is a Monſter! the Object of all Mankind's juſt Deteſtation!

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REFLECTIONS.

WOMEN are ſubject to ſuch regular Evacuations, that 'tis very hard to account for, and aſſign the Cauſe thereof. Some have been of Opinion, that Nature, by this Flux, propos'd to purge the Blood of the Sex from the Impurities it contracts, thereby to render them more fruitful. Others, by obſerving the Qualities of the Blood which Women in Health loſe in their Courſes, have been perſuaded, that 'tis ſo far from being an Excrement, or Maſs of Filth, that, on the contrary, it is a moſt pure Blood, and of Conſequence, very fit and proper to nouriſh the *Fœtus*. So much for the Final Cauſe, or End, for which theſe Flowings ſeem ordain'd.

As for the Efficient Cauſe, the moving, or mechanick Principle, which, in the Female Body produces theſe Effects, Men do not agree much better about this, than about the Final Cauſe, and are not much leſs divided in their Opinions, as to the Manner in which this Evacuation is made, than they are concerning the End, the Motives and Deſign, which Nature may have in procuring it.

Some Authors, much devoted to Aſtroculture, and accuſtomed to trample under Foot ſuch immediate Cauſes as they have juſt at Hand, Objects that are too plain, familiar, palpable, and natural for them to look upon but with Contempt, as Things common, ordinary, trivial; theſe Men erect the Moon for the efficient Cauſe, and make her abſolute Miſtreſs of the Courſes in Queſtion. Others, ſomewhat more indulgent, and better diſpoſed towards ſublunary Cauſes, have taken Care to make Cavities in the Womb, where they lodge in Ambuſcade a certain Ferment, or Leaven, which they have order'd to ſally regularly thence every Month, to attack the Blood in its Paſſage, put the Humours all in Combuſtion, diſturb the Harmony of the Motions, the Exactneſs of the Functions, and, in fine, to play the little Devil, that, full of Malice, bent upon Mutiny, and breathing nought but wild Sedition, is never at Reſt, nor lays down his Arms, till he has rais'd in the

Blood

Blood a tumultuous Agitation, a diſorderly Efferveſcence, a more than ordinary Fermentation, and laid under Fire and Gore all the Region of the *Matrix*, which he makes a Field of Battle, that is, for ſome Days, to be quite overflown with Blood, and as the Object of his Rage, to appear altogether diſmal, and in Diſorder. They who judge in the moſt ſimple, and moſt natural Way, and, of courſe, the neareſt to Truth, are thoſe who, after the famous *Galen*, acknowledge for Cauſe and Mover of this Flowing, the *Plethora*, or Abundance of Blood, among whom, we muſt confeſs, that Dr. *Freind*, an *Engliſh* Phyſician, has moſt diſtinguiſh'd himſelf, in a Treatiſe he has publiſh'd upon this Subject; which, tho' it be not exempt from Miſtakes (as we ſhall obſerve in the Sequel of this) is, however, in the main, a valuable Piece, both for the ſingular Clearneſs that ſhines every where throughout the Performance (which makes its principal Merit) and for the great Number of very excellent Reaſonings, and eſſential Obſervations, that we ſee there diſplay'd in the faireſt Light. If one will but vouchſafe to ſtoop a little, to ſeek for Cauſes in the ſublunary Empire, and not to be over-ſmitten with the Charms of the Moon, and dazzled with her mighty Power; in fine, if we'll be impartial Judges, we ſhall eaſily ſide with *Galen*, and without Heſitation, give to the Syſtem of the *Plethora*

(which has ſince been ſo illuſtrated by Dr. *Freind*) the Juſtice due to it, and the Preference it deſerves.

Women, in their Courſes, do but diſcharge their Superfluity; and, to be convinc'd of this, it is enough to obſerve, that after they have had theſe Flowings long enough, for Inſtance, the Space of Five Years, they are no ways diſorder'd thereby, but, on the contrary, they continue always alike, hold the very ſame State, enjoy the ſame Vigour, and, if you weigh 'em, you'll find 'em no lighter; and yet, in this Time, they have loſt a Hundred Pound of pureſt Blood; a Loſs! that ſhould not only weaken them, but conſume almoſt their whole Subſtance, and reduce them to nothing, were it any thing elſe but Superfluity. Now, if Women have this Redundancy of Blood, this is what we call the *Plethora*, and the Matter we are ſeeking. There is therefore this *Plethora*, or Redundancy of Blood in Women; that is prov'd: But how, and by what Means is this *Plethora* contracted in the Perſons of the Sex? This is what we now muſt unfold in two or three Words; *Women tranſpire leſs than Men*; which is prov'd by four Reflections: 1*ſt*. Their Bodies are more weak and tender; the Parts thereof leſs robuſt; the Texture of the Fibres more fine and ſoft, and leſs proper for oſcillatory Motions; and, in fine, leſs vigorous; witneſs their gentle

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and languiſhing Pulſe; which ſhews us plain, that the peaceable Blood, moving eaſy in its Courſe, and ſlowly rowling through the drowſy Veſſels, runs not rapidly to the Glands, neither towards the Skin, nor elſewhere; ſo that the Secretion of the Humours cannot very much be promoted: Add to this, that the Juices, ſeparated in the Strainers, are not in Haſte to iſſue; becauſe the ſecreting Pipes have not a ſyſtaltick Virtue ſtrong enough to ſqueeze 'em thro', and drive 'em forth with Precipitation. 2*dly*. The Veſſels in Women are of a ſtraiter Orifice. Now, as the Secretion of Humours is more or leſs abundant, according as the Strainers are bigger or ſmaller, and the Blood more or leſs animated, it follows of Courſe, that, the Motion of the Blood being leſs ſtrong at the ſame time that the Pipes or Organs of Secretion are more ſtreight in the Woman, the Secretion of the Humours muſt be perform'd more ſlowly. 3*dly*. Women are of a moiſt Temperament, as plainly appears by the Suppleneſs and Softneſs of their Skin; now, if the Fibres are ſo ſoak'd in Humidity, 'tis becauſe they have not Vigour enough to rid themſelves of it; for that Body muſt be dry which expels with Force the Juices that come into it, and diſcharges a great Part of its Moiſture by Tranſpiration, which is the more abundant in Proportion as the Oſcillation of the Veſſels is the more vigorous. 4*thly*. The

Fair

Fair Sex is not ſo active, has not ſo much Exerciſe; they lead an idle, indolent, ſedentary Life, which does not much excite Tranſpiration: 'Tis true, we ſee ſome Women robuſt, and ingag'd in hard Labour: Theſe, becauſe they are as ſtrong as Men, and have a manly Complection and Character, are call'd Virago's; and ſuch are exempted from the uſual Courſes of Women: We have alſo ſeen Women-Singers and Dancers exempted from theſe. But here may be objected what Dr. *Andry* advances in his excellent Theſis upon Exerciſe, that Womens frequent Tattle may ſupply the Want of other Bodily Labour; and, perhaps, hence it comes, that Women, chattering much more than Men, have leſs Occaſion for other Excerciſe. We muſt own that Tranſpiration is aſſiſted by the Motion of the Voice in Converſation; yet theſe Motions are not ſo conſiderable, as not to leave ſufficient Matter for Womens Courſes. Thus is the *Plethora* bred in the Sex; whence Nature is obliged to prepare a Diſcharge for the ſuperfluous Blood, whoſe Sally, for ſeveral Reaſons, is thro' the Womb; for this is the Part where the Blood more plentifully iſſues, becauſe of the great Number of Blood-Veſſels, which, being wound and interwoven together, ſpread all over and through the Subſtance, in a Thouſand Warps and Turnings, after a ſerpentine Manner; and that which the more conveys

the

the Blood this Way, is the Trunk of the deſcending *Aorta*, which is remarkably larger in Women than in Men, to the End that, the Blood flowing more abundantly downwards, the *Fœtus* may thereby be the better nouriſhed, and the eaſier thruſt out by the Muſcles in Time of Child-Birth. Now, as much Propenſion as the Blood has to deſcend towards the *Matrix*, ſo much has it the greater Difficulty to return from thence; for thither it tends, through the Arteries, which jirk it pretty faſt along, and the more readily, as the Blood of itſelf, by its own Weight, concurs to the Motion: But it returns through the Veins, which have not the like Force to ſhove it, beſides the reſiſting Clog of its own Weight, which they have to conquer; ſo that 'tis always in a Diſpoſition to recoil, ſuſpended as it is, in the Veſſels which labour to make it riſe; and which, to increaſe the Difficulty, have not ſo much as a Place of Reſerve, to ſuſtain it in its March; and don't ſupply it with Suckers to facilitate its painful Journey. For this alſo is a Point to be obſerv'd, that the Veins of the Womb have no Valves; ſo that the Blood has a deal of Difficulty to gather in this *Viſcus*; and, of Conſequence, has the like Difficulty to paſs through the Conduits that there terminate. Here it is that I am obliged to differ in Opinion with Dr. *Freind*, about the Manner of explaining this Paſſage; he pretends,

pretends, that, to make way for the Blood to escape, the Arteries must break in their Extremities, that is, towards these Parts where they take the Name of *Capillaries*; he undertakes to prove this Rupture by Principles deduced from the Mathematicks, whence he draws Conclusions for his Purpose, and, in the Manner he goes about it, he seems to reason very securely, and to advance nothing but what seems infallible and undoubted; and his Argument has all the Air of a Demonstration, victorious and unexceptionable. A Geometrician, who was to prove, that all the Angles of a Triangle are equal to two Right ones, and that the Tangent touches the Circle but in one Point, would not go more boldly about it, nor with more Confidence. At the same Time, the Doctor's Demonstration is far from Geometrical; and the Geometrical Certainty will, perhaps, be rather found on my Side. He advances two Propositions establish'd by Mathematicians: 1*st*. That the Force of a Body increases, as it acquires either more Bulk, or more Swiftness, or both together. 2*dly*. If the Force of the Body is superior to that of the Obstacle, which it encounters, this Obstacle will be surmounted. Whence he concludes, that the Force of the Blood augments in the *Plethora*, because there is together, at once, both more Bulk and more Velocity; more Bulk, because the *Plethora* consists of

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abundance of Blood; more Velocity, becauſe, ſays he, as there is abundance of Blood, provided it be not ſlow and viſcous, it emits the greater Quantity of Spirits, which flow to the Heart and the Arteries, the more briskly to animate them, and redouble their Contractions. Now, the Veſſels are to be conſider'd as Obſtacles that hinder the Blood from extravaſing; and ſuch they continue to be, whilſt they are ſuperior or equal in Force to the Blood they contain within them; but, when they come to be over-power'd, and the Strength of the Blood is increas'd to that Degree, as to conquer their Reſiſtance, they ſtraight yield, are readily broken, and open a free Paſſage through the Breaches of their Tunicks. Now, the Veſſels the eaſieſt and fitteſt to yield, are thoſe of the Womb; which, being the moſt attack'd, are leaſt able to make Reſiſtance; and to comprehend perfectly well how they give way, one needs only to take Notice, that the *Plethora*, at the ſame Time it augments the Force of the Blood, weakens the Reſiſtance of the Veſſels; for, ſays Dr. *Freind*, in conſequence of the big Volume of Blood that weighs upon the Veins and Arteries, not only on their Sides, but perpendicular, becauſe of the winding Diſpoſition of the Veſſels, which, by their Turnings and Counter-turnings, in their Folds and Refolds, expoſe their Angles and Corners to

the direct and perpendicular Impulse of the Fluid: By Means, I say, of this big Volume of Blood, the Vessels are stretch'd and dilated, and thereby the Fibres that compose these Vessels leave an Opening betwixt 'em; so that their Texture being less close and firm, and more press'd upon, they are more dispos'd to separate, and yield to the Attack of the Blood, if it just so happens, that when they are at their weakest, the Blood has more Force than ordinary, as it truly has; since the *Plethora* gives it more Strength, as we have prov'd, both by Reason of the Blood's greater Bulk and greater Velocity: The Blood therefore will take the Advantage of the Vessels disadvantageous Situation, which, being violently stretch'd, widen'd, and press'd, lose a great deal of their Resistance, and can offer but a weak Bar against the impetuous Force and Impulse of the Blood. Wherefore, the Barrier being surmounted, because the Fibres of the Vessels being widen'd, and but weakly helping each other, nor able to make any great Struggle against their Disunion, there is but little to hinder the Fluid from breaking its Prison, from tearing their Canals, and extravasing; the more easily, as these winding Canals, that make a Thousand Circumvolutions, are more expos'd to the Strokes of the Blood, being besides destitute of the Muscles and the Fat to uphold, maintain and defend 'em against the Rupture:

Rupture: They muſt therefore yield to the Impulſe of the Blood, and be broken to give it way to eſcape.

This is the Explication of Dr. *Freind*, and one can't help agreeing with him in this Part of it, that the *Plethora* contributes much to the Monthly Courſes; at the ſame Time we muſt alſo own, that notwithſtanding all theſe Advantages which we have juſt now attributed to the Blood, yet it ought to be contain'd in a juſt Meaſure, and reſtrain'd to certain Bounds. We muſt confeſs with *Etmuller* and *Riverius*, that an exceſſive *Plethora* is more likely to ſuppreſs, than to excite the Courſes; nay, we may further aſſert, that this is the moſt uſual, and almoſt the general Cauſe of theſe Suppreſſions that afflict the Sex. The two famous Phyſicians, we have juſt now quoted, account for theſe Suppreſſions by the exceſſive Redundance of Blood, which they make the Cauſe thereof, much in the ſame Manner as we impute the Stoppage of Urine to the too great Quantity of Liquor gathered in the Bladder; which Anology is judicious enough; 'tis true, it is not exact, it runs not upon all Four; becauſe (according to the Remark of Dr. *Freind*, who refutes it) the Bladder is much better furniſh'd than the Blood-Veſſels are, being fortified with a Tunick firm and fleſhy, too ſtrong to be torn and broken by the Affluence of Urine, which coming there to lodge but in

a ſlow, indolent Manner, without any Impetuoſity, is not able to make any great Havock there; all that it does in this Caſe, is ſo to ſtretch the Fibres of the Bladder, that they cannot come to themſelves again, and have not Freedom enough to contract in order to expel the Urine. That which alſo contributes a great deal to the Stoppage is, that the *Sphincter* of the Bladder, to wit, the Muſcle that ſtops the Paſſage thereof, has, in this Caſe, all the Advantage, and remains Maſter of the Field of Battle, becauſe its Antagoniſt, namely, the Muſcular Tunick, which ſerves to drive out the Urine, being ſtretch'd, dilated, conſtrain'd and hinder'd, has not Strength enough to counterbalance the *Sphincter*, much leſs to over-power it. In this reſpect, I ſhall believe the Parallel betwixt the two Stoppages to be imperfect; but 'tis juſt at leaſt in this, that it compares a Blood, which iſſues not from the Veſſels, becauſe, oppreſſing them by its Weight, it leaves them not Play enough to expel it; I ſay, as it compares this Blood to the Urine that remains in the Bladder, becauſe being there too abundant, it ſo dilates the Bladder, that it cannot contract to drive it out. On both Sides we ſee a ſuper-abundant Fluid; a Solid groaning under the Oppreſſion of this Super-abundance; and on both Sides is obſerv'd a Canal or Reſervior, choak'd with its Liquor, which it is forc'd

to

to retain, becauſe it is depriv'd of the Means to diſcharge it; inaſmuch as this Liquor, by its exceſſive Quantity, triumphs over the Spring of the moving Fibres, which, by being more ſtretch'd, loſe all their Power and Play. Therefore our two Authors Compariſon is, in this Senſe, very juſt; and the Reaſons we ſhall alledge in the Sequel will help to ſet off the Advantage of it, and render its Validity the more ſenſible.

Dr. *Freind* pretends, that the *Plethora* can never, of itſelf, cauſe ſuch a Suppreſſion, and does never cauſe it, unleſs when join'd with a Viſcoſity and Slowneſs of the Blood; for, ſays he, the Particles of the Blood being incorporated, and cloſe link'd together, form ſuch a groſs Body as can by no means be inſinuated into the Capillaries, where, of Courſe, it forms an Obſtruction: Now, theſe Veſſels being ſtopt, thro' which the Blood us'd to paſs, it remains ſhut up in the bigger Veſſels, which are too ſtrong to give it Vent through the Rupture of their Tunicks.

At the ſame time, according to this Author's Reaſons, one might demonſtrate, that theſe Veſſels, big and ſtrong as they are, ought to crack at laſt, and be broken. For, if the big Veſſels are more robuſt than the ſmall, they are alſo attack'd by a greater Quantity of Blood. In the natural State, they are counter-balanced, and in an *Equi-*

librium

librium with the Fluid; but, in the preſent Caſe, the Fluid muſt get the better, becauſe it augments in Strength, by reaſon of its Bulk being ſwoln and re-inforced from the Reflux of the Juices that ſpring out of the Capillaries; whilſt the Veſſels extremely ſurcharged, loſe their Power, and cannot hinder the Interſtices of the extended and ſuffering Fibres from being forc'd by the Affluence of the Blood that ſeeks an Out-let, and, by its exorbitant Maſs, has Power enough to make itſelf one thro' the Dykes, whoſe Reſiſtance is diminiſhed in proportion as the Strength of the Blood is encreaſed. This is what might be maintain'd on our Author's Syſtem, and by his own Proofs. Among Phyſicians, there are ſome who explain the monthly Courſes by the Rupture of the Veſſels; others again take a different Road; but it ſeems as if People were only dreaming over this Point, and ſhew'd an Indifference that does not appear to be well grounded: Yet, as we have here eſtabliſh'd the Sentiment of Dr. *Freind*, which is the moſt in vogue, it may not be amiſs to ſay ſomething of another Opinion, which, tho' leſs common, does not fail, nevertheleſs, ſtrongly to engage us in its Favour. The Blood of Women being, for the Reaſons we have declar'd, liable to gather in the Veſſels, it ſhould, of Courſe, happen, that the Blood tending particularly to the lower Parts, and the Veins having no Valves,

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the Arteries may bring more Blood than can be return'd by the Veins. Wherefore, the Veins, being fill'd to the Top at a certain time, cannot receive the Blood that is ſtill brought afreſh to them from the Arteries: This Blood being once ſhut out from the Veins, is ſtill leſs liable to return from whence it came, whither then will it go? what will become of it? Thither, no doubt, where it finds leaſt Reſiſtance, and that is, on the Side of the Lymphaticks; which being only made to admit the *Lympha*, and convey it to the *Matrix*, in order to moiſten and lubricate this *Viſcus*, are oblig'd to yield to the Torrent, to an extraordinary Extenſion of their Texture, and ſuffer Violence in their Diameter, in order to receive this ſuperfluous Blood, puſh'd out from the Arteries, and rejected by the Veins. Now, as the Lymphaticks muſt terminate in ſome Iſſue, the Canals, or excretory Ducts, deſtin'd to the Diſcharge of the *Lympha*, ſerve here to give an Out-let to the Blood, and diſcharge it.

This mechanical Account, is it not more eaſy, more ſimple, more plain and ſatisfactory? and does it not more Honour to Nature, than the Syſtem of the Rupture of the Veſſels? It is a conſtant Maxim with Philoſophers, that Nature does every thing by Ways the moſt ſimple, and leaſt expenſive. Now, I ask, on which of theſe two Sides it coſts the moſt? In the firſt Place, does it not

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impair the Veſſels much more, by making them ſo often to ſuffer a Solution of their Continuity? Is not this Hurt done to the Subſtance in its ſolid Parts too dear a Purchaſe? and the frequent tearing of the vaſcular Tunicks, which muſt every Month be broken, is not this paying too great a Price for the Exit of this Portion of ſuperfluous troubleſome Blood? But by the other Way, how will it coſt ſo dear? Only a little Enlargement of the Bounds of the lymphatick Arteries, a little Straining of their Diameter, which is far from making ſuch Havock as this Rupture does, yet, at once, does all the Buſineſs. But let us carry this Point a little further. Dr. *Freind* pretends to demonſtrate how the *Plethora* procures the Flux. He has Recourſe to the Force of the Blood, which over-powers the Force of the Veſſels; and, to eſtabliſh in the Blood this Superiority, he ſays, that the Blood encreaſes in its Maſs and Velocity, while the Reſiſtance of the Veſſels diminiſhes; becauſe their Fibres being ſtretch'd and widen'd, are thereby depriv'd of their ſtrict Union and Connection, in which conſiſts their Force. The Author admits in the Blood a conſiderable Velocity; and advances, at the ſame Time, that the Veſſels are ſtretch'd and reſtrain'd as if the Swiftneſs of the Blood did not proceed from its being ſo briskly jerk'd, beaten and puſh'd forward, by the powerful Oſcillation of the

Veſſels,

Veſſels, which being ſtretch'd and reſtrain'd, are not able to puſh the Fluid with ſo much Vigour; whence it neceſſarily follows, that the Fluid muſt loſe of its Velocity, inſtead of gaining more, as the Author pretends. Dr. *Freind* would have avoided this Perplexity, had he taken Care to obſerve the moving Force of the Blood, and had explain'd himſelf a little more particularly upon it. Rejecting, as he does, the Hypotheſis of Fermentation, it is to be preſum'd he ſubſcribes to the Oſcillation of the Solids, as in Truth he ſeems to hint in ſeveral Parts of his Book. Now, this Syſtem makes the Agitation, or progreſſive Motion of the Fluid, to depend upon the ſyſtaltick Virtue of the Solid, whoſe Spring being more or leſs animated, makes the Blood and all the Humours move with more or leſs Precipitation. This is a Principle which we think cannot be denied by Dr. *Freind*; and yet this Principle makes againſt himſelf, becauſe thence it follows, that in Proportion as the Veſſels loſe of their Eaſe and Liberty, the Blood, far from taking the Advantage of their Weakneſs, to attack and break them, as it does in the Senſe of this Author, does it ſelf abate of its Impulſe, and conſequently of its Force, and ſo ſhares in the Feebleneſs of the Veſſels, inſtead of triumphing over it. This carries us yet farther.

This Swiftneſs of the Fluid being a pure Effect of the ſtrong Vibration of the Solid,

which at once both contains and chaſes it, is not a Portion of the Force of the Blood, but of the Force of the Veſſels, which, without doubt, are ſtrong enough to defend themſelves againſt the Irruption and Inſult of a Humour that has no other Arms than what they vouchſafe to lend it, and which would remain dormant, lazy, languiſhing, if the Veſſels were not ſo kind as to put it in Motion. Here now, pray what has the Blood to boaſt of, poor and beggarly in it ſelf! What has it, which it hath not receiv'd? And if it has receiv'd all it hath, wherewith can it prevail? How can it have the Inſolence to employ its Strength againſt thoſe that gave it, and turn its Arms to the Diſadvantage of thoſe that arm'd it? Hence we may plainly ſee, that the Blood having no Aſſiſtance but what it borrows, cannot thence take any Advantage againſt the Veſſels; ſo that there only remains its own Maſs whence it can draw any Succour. But here viſibly falls our Author's Demonſtration; for the Force of the Stroke, or of the Percuſſion, being infinitely greater than any Preſſure, as he himſelf ſays after *Borelli*, *Vis actûs omni preſſione infinitò major eſt*; and the Percuſſion being the Effect of the Velocity, which 'tis confeſs'd does not proceed from the Blood's own Force, it conſequently follows, that the Blood, to break the Veſſels, wants juſt that which is the moſt proper and conducive to this Effect; ſo

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that the Force of the Percuſſion failing, the Blood has no more Force, than from the Preſſure of its own Maſs; and this, 'tis allow'd, is not ſo powerful by far as the Percuſſion. Whence, after all, one may judge, that *Borelli*'s Propoſition is falſe in one Senſe, and in the preſent Caſe may be denied; for the Blood ſwiftly mov'd attacks the Veſſels, and yet it is prov'd, that the Force of the Attack is leſs than that of the Preſſure; becauſe the Preſſure comes from the Maſs, and the Maſs is properly that which belongs to the Fluid: It is its own proper Force, and it can do more with the Addition of one Degree of Maſs, than with that of twenty extraordinary Degrees of Swiftneſs; the Reaſon whereof is evident. 'Tis, for that by its additional Degree of Maſs, it weakens the Veſſel, by widening its Fibres, and rendering them leſs able to withſtand their Diſ-union, which it never can do by its Swiftneſs, ſuppoſe it augmented to what Degree you pleaſe. Therefore, the Force of the Preſſure, unaccompany'd with that of the Percuſſion, is the only Choice they have, who, after Dr. *Friend*, explain the Monthly Courſes by the Rupture of the Veſſels; for, this being pre-ſuppos'd, the Blood can never be in too great a Maſs, and the Exceſs of the *Plethora* can never do any thing but Good: The Blood will have the more Force, as it is the more abundant and leſs hurried; for as ſoon as it

fails of its Swiftneſs, that will be a Sign that the Veſſels have not Spring enough to puſh it vigorouſly; and, in this Caſe, the more Bulk it requires, the more it reſtrains them, the more it widens their Fibres, and puts them out of Condition to ſuſtain its Weight, to ply to its Volume, and reſiſt its Power; can any thing be more advantageous to him than this Situation? In this Syſtem let us examine how we may explain the Monthly Suppreſſions, and what way we muſt proceed to remedy the ſame. We are going to obſerve, that it is not indifferent in Practice to make Choice either of the Rupture of the Veſſels, or of the Intruſion of the Blood into the Lymphaticks, as one pleaſes; for theſe two Syſtems by no means agree; they offer for the Cure quite different Views and contrary Indications: It is then very important, heedfully to diſtinguiſh them; to chuſe one of them, and to take great Care which of the two we chuſe, and to which of the two we adhere. This is not to be done with Indifference, as but too often happens, but very carefully, with the utmoſt Exactneſs, and after having maturely thought upon it. When the Blood gathers, ſays the * Author, the Pulſe then grows more ſtrong, more lively, more quick, till the *Plethora* is rais'd to the higheſt Degree; for there are certain Limits of Plenitude, beyond which

* Cap. 10.

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the Quantity of Blood cannot augment, without affecting and altering its Quality; *Eſt enim certus quidam plenitudinis gradus, ultra quem, illæſâ qualitate ſanguinis, augeri nequeat quantitas*; for the *Plethora* cannot be long a gathering, without ſlackening the Pace of the Blood; *Plethora enim diù nequit increſcere, quin comitem ſibi adſciſcat ſanguinis lentorem*: Since, continues he, towards the Approach of the Flux, the Veſſels are ſtretch'd and dilated to the Degree that I have mentioned; becauſe the Quantity, and conſequently the Force of the Blood is increas'd almoſt a Tenth. If the Courſes fail twice ſucceſſively, the Maſs of the Blood will be a Fifth Part augmented, unleſs the Flux be equall'd by ſome other Evacuations. Therefore, the Preſſures which the circulating Fluid makes upon the Sides of the Veſſels muſt augment in Proportion; which ſaid Preſſure the Veſſels cannot ſuſtain, without being ſtrangely put to it, labouring already under the the Load of the Blood that eſcap'd in the firſt Month; *Adeoque eadem ratione increſcit ea, quâ latera vaſorum a fluido circulante urgentur, Preſſio; quam a vaſis citra virium noxam ſuſtineri poſſe nemo credet, qui quam graviter ea ſub primæ periodi incurſum laborent meminerit*: The Slowneſs of the Blood may be ſuppoſed from its great Abundance, which ſwells ſo much, that the Veſſels, to what Degree ſo-

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ever they yield and ſtretch themſelves, cannot, without breaking, give it a Space ſufficiently vaſt; ſo that the Maſs of the Fluid is reſtrain'd and impriſon'd in a Veſſel, whoſe Capacity it far ſurpaſſes: *Lentor ab ipſâ copiâ oriri poteſt, quæ ita ſupra modum intra vaſa turgeſcit, ut ea, utcumque diſtenta, ſatis amplum ſanguini circulando ſpatium præbere nequeant, niſi penitùs diſſiliant fibræ, ita ut cum uberior ſit, quam pro vaſorum capacitate fluidi moles, majorem patiatur retinentiam ſanguis redundans:* Who would think that theſe Reaſons, which ſeem to tend to explain the Flux, ſhould end, nevertheleſs, in proving the Suppreſſion? That to ſhew how the *Menſes* are ſtopt, one ſhould make uſe of all the Conditions requiſite to make them flow? Theſe Conditions are on one Side the great Stretching of the Fibres in the Veſſels, which hinders them from reſiſting their Diviſion, and puts them in the neareſt Diſpoſition to be diſ-united; and on the other Side, the exorbitant Volume of the Blood as compact, as maſſive, as cloſe in its Texture, as the vaſcular Fibres are looſened, and which bears hard upon the Sides of the Veſſels that contain it; is it not viſible, that all the Advantage is here on the Side of the Blood? The Solid is dilated; the Fluid is cloſe knit; behold! here is the Extenſion and the Preſſure that is demanded: As for the Swiftneſs or Percuſſion, we have proved,

proved, there is no Occaſion for it: The Fluid then has here all the Force it can have; ſince it has an enormous Reinforcement of Maſs, in which, as we have obſerv'd, conſiſts all its Power; and the Solid is as weak as it can be; ſince 'tis own'd by the Author himſelf, that it cannot, without Pain, *Citra virium noxam*, ſuſtain the Weight of the Fluid; and that the Veſſels, however dilated, cannot, without burſting, give a free Space to the Blood: *Niſi penitùs diſſiliant fibræ:* Then what can hinder this Burſting? Why don't we immediately ſee the Fibres crack, they who loſe as much of their Reſiſtance, as the Blood acquires of Strength? All morbifick Suppreſſion, ſays * Dr. *Freind*, depends either on the Fault of the Veſſels, or on the Fault of the Blood; the Fault of the Veſſels conſiſts in their Reſtraint; that of the Blood, in its Slowneſs; 'tis agreed, that the Veſſels are not here in a State of Conſtriction, but, on the contrary, that they are in great Diſtention: So here is no Fault of theirs, neither is the Blood to blame, if it be ſlow, for its Slowneſs only proceeds from its great Quantity, in which all its Strength conſiſts; ſo that this Slowneſs, far from impeding, rather provokes the Flux; for, if the Blood was leſs ſlow, the Veſſels would be leſs reſtrain'd, more left, as it were, to themſelves, and enjoying the Advantage of their Eaſe

* Cap. 10.

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and Liberty, as the Blood would have that of its Velocity; they would, by Conſequence, be leſs diſpos'd to be broken. So, the exceſſive *Plethora*, and the extreme Slowneſs, far from cauſing Suppreſſions, cannot, on the Syſtem of the Rupture of the Veſſels, but rather procure, and favour in the Sex this particular Evacuation. Dr. *Freind* calls it a Vice in the Veſſels, to be in a Condition to hinder themſelves from being broken; this is indeed a Vice in his Syſtem, and in reſpect of his Opinion, but abſolutely, and in the main, it is none. On the contrary, it is a Frailty, a Diſhonour, a Defect in them, ſo to break: For the Veſſels to be of a Structure ſufficiently ſolid, ſufficiently furniſh'd and fortify'd, ſeated ſufficiently to Advantage, ſtrong enough to reſiſt the Diſ-union of their Fibres, to withſtand their breaking, and ſtoutly to maintain themſelves ſound and whole, this is not a Defect, 'tis a Perfection. On the contrary, Dr. *Freind* calls Slowneſs a Vice in the Blood, which however is none, on his Syſtem, and according to his Hypotheſis, tho' in the main, and in Fact, it is one; for the Slowneſs of the Blood, tho' it be abſolutely in itſelf an ill Quality, is a good one in the preſent Caſe, it being that which gives Power to the Blood, and makes it ſtrong: It follows from thence, that the Blood can never be too ſlow, nor too abundant, to procure the Courſes; then how are they

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ſtopt? how account we for their Suppreſſion? *Etmuller*, *Riverius*, Dr. *Freind* himſelf, agree, that an exceſſive *Plethora* may cauſe this Suppreſſion; but how is this to be explain'd in the Doctrine of our Author? Is it not evident, that the more enormous the Quantity of the Blood is, the Diſtention of the Veſſels is made the more conſiderable, and the readier they are to break? On the Hypotheſis of the Blood's Intruſion into the Lymphaticks, nothing is more eaſy to explain than this Suppreſſion; the Blood-Veſſels being ſtuffed, diſtended, dilated, and all groaning under the oppreſſive Weight of their Fluid, have not Play and Liberty enough to expel it into the Lymphaticks, and to chaſe it thro' the Pipes that diſcharge the Excrement, ſo as the Fluid cannot be removed, chaſed, drove on, becauſe the prodigious Maſs reſtrains the Solid, ſtops and weakens its ſyſtaltick Virtue; ſo that it remains ſtagnant in the ſanguine Capillaries, for want of a Force ſtrong enough to puſh it into the Lymphaticks, and, not being able to make its Way through the excretory Channels, it remains engag'd in the Veſſels, which with its Bulk it oppreſſes, and makes the Sex feel the over-whelming Weight that attends the Suppreſſion of their Courſes.

Every morbifick Suppreſſion, ſays our * Author, which depends upon the Fault of the Veſſels, or of the Blood, offers two

* Cap. 11.

Indications; the one to open the Canals that are obſtructed and ſtopp'd; the other to correct and reduce the Blood: The Fault of the Canals, continues he, is either to grow hard and ſtiff by a natural Dryneſs, or to be contracted by a ſudden Coldneſs, in ſuch wiſe, that they oppoſe the Impulſe of the Blood, and reſiſt their being broken. To remove this Impediment, according to the Opinion of this Illuſtrious Phyſician, we muſt relaxe the Fibres; but there is an Equivocation in this *Relaxe*, which 'tis worth while to clear up; we uſually underſtand by Laxity or Relaxation, a State oppoſite to Tenſion, a State where the Fibres are ſupple and not ſtretch'd, where they act freely, and without Reſtraint; becauſe, being ſufficiently moiſten'd, they are flexible and pliant; whereas Dr. *Freind* ſeems to underſtand by Laxity, the State of the Fibres widen'd, pull'd, and ſtretch'd into a ſtrong Diſtention: So, according to this Idea, the more the Canals are ſwell'd with the Abundance of the Liquid, the more the Fibres will be widened one from another, and the more they will be relaxed; whence it follows, that, to effect the Relaxation, taken in this Senſe, and on the preſent Hypotheſis to make the *Menſes* flow, the ſureſt Means is to draw into the Pipes as much as one can, wherewith to ſwell, obſtruct, ſtuff and clog them. 'Tis viſible, that all this ſtrangely dilating the Veſſels, ſo wi-

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dens their Fibres, that they ſcarce touch one another; and this procures the Laxity that Dr. *Freind* demands. The Laxity that I firſt mention'd, taken in the natural and ordinary Meaning of the Word, is quite different from this; and, on the Syſtem of Dr. *Freind*, as much contrary to the Monthly Courſes, as the other is favourable to them; the one is procured by the Suppleneſs and Flexibility, the other by the Force, the Torture, the Pulling and Stretching of the Fibres: Wherefore, if it be proper, in order to make the Courſes flow, that the Fibres ſhould be pull'd, ſtretch'd, widen'd, and forc'd, nothing can be more adverſe and oppoſite to this Flowing, than this State is, where the Fibres are ſupple, flexible, pliant, at their Eaſe, their own Maſters, unreſtrain'd, no way ſuffering, no way moleſted. This pre-ſuppos'd, we are going to ſee which of theſe two Relaxations Dr. *Friend* propoſes to us as the Subject of our Conſideration; and we ſhall obſerve, upon this Occaſion, that he does not too well, here, agree with himſelf; for, as theſe two Relaxations are incompatible, to admit the one, is excluding the other; tho' Dr. *Freind* ſeems as if he would chime in with both. For this End, ſaith he, namely, to conquer the Reſiſtance of the Veſſels, and to procure the Relaxation of the Fibres, we muſt apply exterior Remedies moderately warm, ſuch as Fumigations,

Baths, and Fomentations, prepar'd with emollient and penetrating Herbs: *Ad hunc finem tepidè adhibentur externa Remedia, qualia sunt Suffitus, Balnea, Fomenta, ex herbis emollientibus, & penetrantibus conflata.* This is proper to procure that Sort of Relaxation which consists in the Suppleness and Flexibility of the Fibres, but not the other, which consists in the stretching, widening, and constraining them, to render them less able to resist the Impulse of the Fluid: *Contractu autem vasorum inhibito, vasorum latera laxiùs explicantur, & fluido impingenti debilius resistunt.* If one has a Mind to break the Vessels, methinks 'tis going the wrong Way about it, to make them supple, pliant, tractable, yielding; for the more flexible and yielding they are, the less they are dispos'd to be broken; the more supple, sure the less frangible; a dry Cord will sooner break than a moist one; and if Dr. *Freind* will be pleased to take a little Notice of this, he will observe, that a dry and hard Vessel is more frail and easy to be broke than a pliant, soften'd, moisten'd one; what View then can this able Physician have? and what Indication leads him to relaxe the Vessels, by Emollients, such as Baths, Fumigations, Fomentations? I here appeal to the Judgment of this excellent Author himself, so well vers'd as he is in Mechanicks; perhaps I am dazzled with a false Light myself; yet, till I am enlightned,

ned, I ſhall always imagine, that the Blood in its Motion will ſooner break Veſſels hard and dry, which make Head againſt it, are directly expos'd to the full Strength of its Impulſe, to the Force of its Colliſions, more within the Reach of its Sallies, more the Mark of its Impetuoſity, and of its fierceſt and briskeſt Attacks, than Veſſels ſoftened, which, by their yielding Suppleneſs, dexterouſly avoid all the Thruſts the Blood can make againſt them; as we ſee the pliant Reeds elude the Attack of the moſt outrageous Tempeſts, whilſt Oaks that ſtand full butt againſt them, and ſtiffly ſuſtain the Aſſault, lye rooted up, and proſtrate upon the Ground, the illuſtrious Victims, and the magnificent Trophies of the furious Tempeſt's Power. The Cold too that ſtiffens the Fibres ſeems alſo to render them the more frail, and liable to break. This being ſo, who does not ſee that Deſiccatives here are much more proper than Emollients? Who does not here ſee, that inſtead of ſoftening the Veſſels that are too dry and hard, and ſlackening the Fibres that are too ſtiff, we muſt maintain them in their Dryneſs and Stiffneſs, and far from diminiſhing any thing of theſe, we muſt augment them as much as we can; becauſe we ſhall infallibly render the Veſſels and Fibres more frail, in Proportion as we ſhall render them more dry and ſtiff; the more Violence we do them, the more Streſs and Torture we put

them

them to. Emollients, in this Caſe, ſeem quite contrary to our Purpoſe, becauſe they ſeem more proper to make the Conduits play, by ſetting them at their Eaſe, than to make them yield to ſuch a Rupture as our illuſtrious Author deſires. *Hippocrates*, he obſerves, in a Suppreſſion of the Courſes, adviſes to begin with a Purgation by Fomentations; *ſnppreſſis menſibus, fomenta purgationi eſſe præmittenda monet Hippocrates:* But if the Purgation operates in the ſame Manner as they ſay the Fluxes do, by the Rupture of the Veſſels, the Uſe of Fomentations, far from being ſerviceable here, would be hurtful; but as it is confeſs'd, that the Purge don't work in this Manner, but by quite different Ways; to ſay that the Fomentation is uſeful here, is at the ſame time to ſay, that it is not proper for the Fluxes, which differ ſo much from the Purgation: We foment before Purgation, to make the excretory Ducts more yielding, and more diſpoſed to emit their Juices, that they may the better hearken to the Inſtigation of a Purgative, and be the more efficaciouſly perſuaded to do what we would have them: This is our Drift in Fomentations, and this does not drive at breaking, tearing and disjoining the Fibres, but tries to ſooth, temper, refreſh and ſupple them; to give the Juices we deſign to diſcharge, a free, eaſy, natural Paſſage thro' the Iſſue of the Pipes deſtin'd for that Purpoſe. So that,

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to foment in the Suppreſſion of the Terms, all the ſame as in Purgation, is to go againſt the Indication that preſcribes the Rupture of the Veſſels; 'tis to have oppoſite Views, and take oppoſite Courſes to the Syſtem in Queſtion. Dr. *Freind* obſerves, that the Veſſels are more eaſy to open in Summer, than Winter; yet they are more ſtiff, more ſtretch'd, and, of Conſequence more frail, in Winter; ſo that their Opening ſeems to depend leſs upon the Rupture that the Winter favours moſt, than upon the Diſoppilation of the Capillaries, which the Summer's Heat promotes moſt, by means of which the Blood flows more freely, its Velocity is reinforced, its Impetuoſity is augmented, and the Rapidity it contracts in this charming Seaſon, prepares it the better to paſs thro' the Lymphaticks, and to eſcape thro' the Excretories. Here behold the Flux re-eſtaliſh'd; let us now come to the Way of removing the ſecond Cauſe of Suppreſſion, acknowledged by Dr. *Friend*, which depends upon the Fault of the Blood, and to which he makes an inſenſible Tranſition. But, ſays he, if the Veſſels continue too long hard, the *Plethora*, which augments every Day, corrupts, and at laſt perverts the Blood, whence we have before drawn another Cauſe of Suppreſſions, which is more frequent: *Quod ſi diutiùs perſtiterit vaſorum durities, Plethora indies accreſcens ſanguini tandem vitium inducit; unde alte-*

altera, eaque multò frequentior ſuppreſſorum menſium cauſa in prioribus deducta eſt. Here we ſee, beyond Doubt, the exceſſive *Plethora*, which we have ſhewn was ſo proper to break the Veſſels, acknowledg'd however as the principal Cauſe of the Suppreſſion. This ſeems to me very hard to clear up. Pray don't forget this laſt cited Paſſage, for we ſhall want you to remember it in the Sequel.

We would re-ſettle the Courſes; 'tis a thick, abundant, viſcous Blood that ſtops them; we muſt change its Quality. Now, the Source of this Quality is its Exceſs of Quantity; it is this we muſt fall foul of; the Point is to correct the Slowneſs: But the Slowneſs, 'tis own'd, produces the exceſſive *Plethora*; our Affair is then with this *Plethora*; 'tis this we muſt firſt attack. Upon this Principle, we immediately conceive Bleeding to be of Uſe. *Bellini*, as we are told by Dr. *Freind*, proves, that Bleeding increaſes the Motion of the Blood; here we ſhould diſtinguiſh: Bleeding raiſes the Fever, and cures it; quickens the Blood, and makes it run ſlower: Thoſe who have a right and juſt Notion of the animal Mechaniſm perceive the Reaſon of theſe ſeeming Contrarieties; the Veſſels being ſtuff'd exceſſively, have not Freedom enough to exert their Oſcillations, to kindle their feveriſh Motions, and to conquer the great Bulk of ſtagnant Humours, by hot Strokes

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of Syſtole and redoubled Vibration, we let Blood, the Reſiſtance is diminiſhed, the Solids are let looſe, the Fluids are diſengaged, the Blood is ſet a running; this is the Caſe of an Apoplexy, to which it is wholeſome that a Fever ſhould ſucceed; the Solids, after having been ſo long oppreſs'd, are, at laſt, at their Eaſe, ſet at large, and in full Power, and make the agglomerated Fluids that had conſpir'd againſt them feel the Force of their Blows, the Effect of their Reſentment, and the Experience of their Revenge. The Blood, after firſt Bleeding, tho' ſtill abundant enough to vex, irritate, and ſtretch 'em, yet is no more able to over-power and conquer 'em. Mean while, the Bleeding, having ſet the Blood in Motion, will in a little time abate its Sallies, and reſtrain its Frolicks. The Reſiſtance of the Fluids, that maintains the Solids in their unbridled Oſcillations, in proportion as it diminiſhes, will calm and reduce them to their natural Vibrations; the Fury of the Veſſels will abate in proportion as the Maſs of the Blood diminiſhes; becauſe, by how much the Bulk of the Blood is leſſened, by ſo much leſs Oppoſition will the Veſſels feel; the leſs, of courſe, will they be excited to furious Motions, and the more diſpoſed to recover their uſual Courſe, their ordinary Oſcillations, their natural Motions: Then, as the Blood contracts its Slowneſs from its exceſſive Abun-

dance, the Bleeding diminiſhing this, ſhews us how much it contributes to correct the Slowneſs of the Blood. This being pre-ſuppoſed, one would think the Doctor ſhould favour this Remedy, and one would not imagine, how, in conſequence of his Principles, he could advance, that in the Beginning of a Diſeaſe, the Blood being too ſlow, it ſhould not be proper to let Blood, unleſs there be Reaſon to hope, that thereby the Viſcidity of the Blood may be corrected; and even tho' there ſhould be an Appearance of this, yet ought not Bleeding to be choſen, if any other Method can be thought of, to reſtore the Blood to its Velocity, without leſſening its Volume. But what is ſtrangely ſurprizing is, to ſee ſuch a Man as Dr. *Friend*, in whom ſound Judgment takes Place ſo much of Prejudice, giving into vulgar Notions and Fancies without Foundation! He has Regard to the Weakneſs of the Perſons who ſuffer in theſe Stoppages, which does not proceed from Inanition, but Over-Repletion; not from a Scarcity, but from a Stock of Forces ſtow'd in too narrow Compaſs, which only want to be ſet at large, as they are by Bleeding; a Weakneſs however, from which a Pretence is drawn, to ſave that Blood, which wants to be diminiſhed, in order to exert its hidden Force, that is quite ſtifled by its own Redundancy; a Weakneſs whence a Counter-Indication is drawn againſt Bleeding, to cure it, to make

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its unactive, diſſembling Force exert and declare itſelf. Women, they uſually ſay, are ſo weak in theſe Suppreſſions, that they cannot bear Bleeding, which cauſes ſuch a prompt and brisk Revolution in the Humours: Is not this Language altogether vulgar? 'Tis what the common Sort of People uſually ſay thro' Prepoſſeſſion, rather than Reflection. Dr. *Friend* alſo ſays, *Neque hoc ſanè prætermitti debet, quod in iis quibus ſuppreſſi ſunt menſes, ita ferè vires imminutæ ſint, ut ſanguinis miſſionem, à quâ adeo expedita inducitur humorum mutatio, minùs ſuſtinere queant.* At this rate, Plethoricks ſhould not be let Blood; for the *Plethora* takes away their Strength; and we ſee that the more Blood they have, the weaker they are. But this Notion was too unworthy of Dr. *Freind*, for him to fix for any time upon it; ſo 'tis not long before he goes off from it; Bleeding happens to fall into Diſgrace; but a few Lines lower, it again recovers its Credit, and in the very ſame Caſe where it underwent the Diſgrace. Sometimes, however, ſays our Author, the Blood gives certain Symptoms of its State and Conſtitution, which, carefully conſider'd, oblige to open a Vein, and to open it too with Succeſs. One of theſe Symptoms may be a Pulſe full and weak, which is ſometimes obſerved in the Beginning of a Diſtemper; nothing but Good can come of Bleeding upon this Occaſion; for thence

reſults a greater Velocity, and, of Conſequence, in the Opinion of Dr. *Friend*, the greater Force of the Blood. *Nonnunquam tamen ſanguis ea de ſe præbet indicia, quibus ſiquis diligentiùs ſtuduerit, venam haud inauſpicatò poterit ſecare: talis indicii exemplum ſit pulſus plenus & imbecillis, qui morbo nondum inveterato aliquando obſervatur; itaque ad hunc modum conſtituto pulſus venæ ſectio, ſi adhibita ſit, ſanguis momentum intendet.* Since a full and weak Pulſe allows, and even obliges to bleed, the Weakneſs of People afflicted with theſe Suppreſſions, is not therefore a good Reaſon to forbear Bleeding; for, with a full and weak Pulſe, as our Author obſerves, and which, in his Opinion, preſcribes Phlebotomy, Women cannot but be weak: It is not the Weakneſs then that forbids Bleeding. The Reaſon Dr. *Freind* adds to authorize the Precaution he adviſes, in order to diminiſh the Blood, is not very ſure; he ſays, that when the Arteries are ſo full, that the Tunicks are ſtretch'd, and take up a greater Space, 'tis a Sign that the Humours are not yet thickened; for, if their Maſs was conſiderably thick and ſizy in its Texture, it would take up leſs Room, becauſe its Particles would be leſs cloſe, and the Arteries thereby leſs ſtretch'd. This is however, what a Body cannot truſt to, becauſe the Maſs of Humours, cloſe thicken'd and condens'd, may happen to be

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in ſuch Abundance, as to ſtretch the Tunicks to a conſiderable Dilatation, without abating the Velocity of the Humours, whoſe Redundance is no way incompatible with their extreme Condenſation. So that, from the Arteries taking up no great Space, there is no concluding, that the Fluid they contain is very maſſive; for it may be maſſive, compact, and cloſe in its Texture, at the ſame time that it is ample, large, and extended in its Volume. A little Attention here will ſhew there is no Repugnance in this. A little further, the Author ſays, that the vaſcular Tunicks, unbent by the Bleeding, leſs reſiſting the Blood that ſtrikes upon them, the Force of the Stroke is thereby weakened: *Tunicis ſanguini affluenti minùs renitentibus deficit ictûs magnitudo.* At this rate, 'tis ill done to bleed, ſince it weakens the Force of the Blow, which Dr. *Freind* makes the principal Promoter of the Fluxes. The Buſineſs therefore is not to ſlacken the Tunicks, nor to render them ſupple and pliant, but, on the contrary, to ſtretch them all we can, and to render them ſtiff, dry, and hard; for Dr. *Friend* agrees, that in this State they make the moſt Reſiſtance. Now, according to his Account in his 4th Mathematical Propoſition,* the Motion loſt (that is communicated) is proportioned to the Reſiſtance; *motus deperditus eſt ut reſiſtentia*; but the Force of the

* Cap. 5.

Strokes

Strokes is alſo meaſured by the Motion loſt: *In percutientibus corporibus ictuum magnitudo motui deperdito proportionalis eſt.* Then, as there is moſt Reſiſtance made by the Fibres ſtretch'd, ſtiff, dry, and hard, the Blood that ſtrikes upon 'em loſes ſtill the more of its Motion, ſince the Motion loſt is anſwerable to the Reſiſtance made: Therefore the Force of the Stroke is the greater in theſe Fibres, ſince the Force of the Strokes are ſuitable to the Quantity of the Motion loſt. Therefore, in fine, theſe Sort of Fibres muſt ſooner crack, than Fibres that are ſupple, ſlack, and flexible. The Blood is ſuppoſed abundant, obſerve here then the Force! the Fibres are ſuppos'd to be widened and diſtended, behold Weakneſs here! Wherefore, all the Power and Advantage is here on the Side of the Blood. Now, if the Force of a Body ſurmounts the Force of the Obſtacle it has to encounter, this Obſtacle muſt give way, according to the ſecond Propoſition: *Si momentum corporis ſit majus quam contraria impedimenti vis, id impedimentum removebitur*; the Veſſels, in this Caſe, muſt be broken, and cannot hinder the Blood from extravaſing. Upon theſe Principles, ſettled by Dr. *Freind* himſelf, methinks, I may, without the Imputation of too much Preſumption, defy him to explain the Suppreſſion of the Fluxes by an exceſſive *Plethora*, and by the Dryneſs and Hardneſs of the Veſſels, which

which make too great a Reſiſtance; for all this wonderfully contributes to the Flux, as I think has been heretofore ſufficiently demonſtrated. Our Author is inclin'd to be of Opinion, that Bleeding ſhould be us'd rather after than before the Purgatives and Emmenagogues, which are the Remedies more eſpecially deſign'd to promote the regular Courſes. The Reaſon he gives for it is, that the Purgatives and Emmenagogues break, refine, and attenuate the groſs compacted Humours; whence the Blood being more clear, is more diſpos'd to be divided, ſeparated, diſlodg'd, and to acquire Force, after Bleeding: But this Advice ſeems contrary to what he gives before, where he adviſes not to let Blood, if there be any other Means to increaſe its Velocity, without leſſening its Quantity; becauſe in Bleeding we diminiſh the *Plethora*, which *Plethora* contributes in a particular manner to the Force of the Flood, and which, if we leave it entire, cannot but augment its Power. Now, ſince the Remedies which Dr. *Freind* would preſcribe previous to the Bleeding, would break the compact Texture of the Blood, rectify that, and, of Courſe, give it Velocity, why not ſtop there? Why meddle with the *Plethora*, which is ſo commended, and held ſo ſacred (as we may ſay) in the preſent Syſtem, that we can't be without it? Why not rather ſpare it, when we have procured the Velocity of the Blood

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another Way, by other Means than Bleeding? Hence we ſee, that Dr. *Freind* has eſtabliſh'd nothing certain here upon the Matter of Bleeding in Caſes of Suppreſſion: So we don't know what to ſtick to, nor what to build upon in his Syſtem. He does not explain himſelf preciſely enough; he does not ſufficiently dive into, and unfold the Matter: He ſometimes loſes Sight of the Principles to which all ſhould tend, and by that means he is led into Perplexities, and falls into Contradictions but too frequently; of all which I ſhall take no Notice; for I do not here pretend to trace Dr. *Freind* thro' all the Windings and Deviations that appear in his Book.

Before we paſs on to an Article ſo important, as to inquire of the Place where it is fit to bleed, whether it be in the Arm or in the Foot; I deſire it may be call'd to Mind, that the Swiftneſs of the Blood is the principal Foundation of our Author's Syſtem; and yet we have prov'd it to be a ruinous Foundation; ſince the Blood cannot apply to the Diſadvantage and Prejudice of the Veſſels, a Strength it receives from them, and a Velocity for which it is obliged to them: So that the Doctrine of our Author is, in that Point alone, ſapp'd from the very Foundation. This is what I deſire may be well remember'd, once for all; for I have no Inclination to be troubleſome, by repeating it ſo often over: *Lindanus* in *Etmul-*

Etmuller counſels, at the Approach of the Courſes, to bleed in the Arm; whereas in the actual Courſe, already begun, he ſends you to bleed in the Foot; which he never orders to be done, but in a Courſe either actually flowing, or ſuddenly ſtopp'd: And *Etmuller* accounts for this Doctrine in the following Manner.

Upon the Approach of the *Menſes*, the Blood being abundant and ſwell'd, Nature exerts all her Efforts to precipitate it to the lower Parts; but the Conduits being ſmall, cannot, on a ſudden, yield and open ſo ſoon; on the contrary, being ſtretch'd and conſtrain'd, they refuſe a Paſſage to the Blood; becauſe they are not at Freedom to contract themſelves, and make way for the Blood. In this Circumſtance, if you bleed at the Foot, you draw the Blood downwards, you charge the *Matrix* more, you add Clog upon Clog, and raiſe the Diſtemper to the higheſt Degree. On the contrary, bleed in the Arm, you divert the Blood from the Parts that are oppreſt therewith; you facilitate its Courſe, you clear the Ways through which it is to paſs; and you give the Conduits the Suppleneſs they want to iſſue forth the Blood they convey; for the Bleeding at the Foot will never provoke the Terms, unleſs they be actually flowing, or by a ſudden Cold, or ſeizing Fright, have their Courſe interrupted. This way of Reaſoning Dr. *Freind* can no

wiſe reliſh; it has ſomething in it that is ſtrange and ſhocking to him. Here it is ſuppos'd, ſays he, that the Blood is ſo ſwell'd and rarified, that it might eaſily flow thro' the Veſſels, if, when 'tis carried downwards, the Plenitude it contracts did not form an Obſtacle to its Diſcharge; that the Veſſels, the more they are gorg'd with Blood, are leſs in a Condition to yield to the Torrent. He rejects this; finds it contrary to Medical Philoſophy, and even inconſiſtent with common Senſe. But is this Reproach well grounded? and have not we a Right to make it recoil upon its Author? *Etmuller* is here accus'd not to have common Senſe! This Accuſation, if it be found unjuſt, will it not rebound upon Dr. *Freind?* Shall we have more Reſpect for him than he has for one of the greateſt Maſters in Phyſick? The *Engliſh* Phyſician is ſo pre-poſſeſs'd with his own Opinion, and ſo glew'd, as it were, to his own Syſtem, that he conſiders no other's; and takes no Pains to enter into the Sentiments of the *German* Phyſician. There is a Syſtem which is ſatisfy'd to make the Veſſels yield or burſt to give way to the *Menſes*; according to this Idea, it is natural and reaſonable, that the more the Veſſels are ſwell'd and diſtended by the Blood, the more fit they are to yield and to be broken: But have we not obſerv'd, that Dr. *Freind* himſelf falls into the ſame Abſurdity, which he reprimands in *Etmuller?*

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have we not obſerv'd a Caſe where the Diſtention of the Veſſels being pre-ſuppos'd, and the Abundance of the Blood that dilates them, he ſtill owns a Suppreſſion? We need but call to Mind what has been lately ſaid upon the Slowneſs of the Blood. Bye and bye we ſhall ſee another parallel Caſe; ſo that it is important not to let ſlip, without Notice, what he advances here. At the ſame Time this Syſtem, which we have juſt now ſeen, is not the only one; there is another which does not make the Veſſels yield, but, on the contrary, makes them act to provoke the Terms. Now, the Fluxes, on this Hypotheſis, not depending on the Veſſels that yield, but which make the Blood yield to them; not on their conquer'd Forces, but on their ſuperior Action, on their victorious Power, on their ſovereign Empire, on their triumphant Oſcillation: 'Tis not, on this Syſtem, a thing contrary to common Senſe, that the Veſſels ſhould be ſo much leſs fit to procure the Courſes, the more they are dilated and ſwell'd to Exceſs, becauſe then, tho' much more eaſy to be overcome, they are leſs qualified to act and free themſelves; which is what is requir'd in this other Syſtem. Our Author will have it, that, if the Bleeding in the Foot provokes the Terms that flow, or that are ſtopp'd in Flowing, it would alſo recal them, when ſuppreſs'd, from their Flux, tho' of a long Standing. This Conſequence is not juſt;

but why, ſays he, in the firſt Caſe, does this Bleeding augment the Force of the Blood, in hurrying it downwards, and does not augment it in the ſecond Caſe, acting ſtill in the ſame Manner? The Queſtion is not here about the Force of the Blood: *Etmuller* is not obliged to ſpeak in Conſequence to the Principles of Dr. *Freind*; and Dr. *Freind* is but ill warranted to meaſure every thing by his own Ideas, and ſuit every thing to his own Hypotheſis. To do this, he firſt muſt prove, that the only way to be taken is that which he has taken; and that his is the only Syſtem that can rationally be follow'd: He ought firſt to have made it impregnable, and not have left ſuch a Hold to be laid on't as he has done; ſince this Syſtem, according to what appears in our Remarks, is by ſo many Ways ſo ſucceſsfully ſhaken.

The Bleeding in the Foot excites the Terms that flow, and that are interrupted in flowing; becauſe then the ſole Buſineſs is to aſſiſt the Blood's Determination towards the Uterine Region; the Blood flows; this is a Sign that it is clear'd, refin'd, well-condition'd; and that the Veſſels are not embaraſs'd; now, the Paſſages, the Iſſues, the Conduits being free, and clear'd, the new Blood which the Bleeding in the Foot determines that way, will eaſily paſs, and without Pain, proceed to its Exit. The Blood that juſt now flow'd, ceaſes, and flows

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no more. In this Caſe, it is only repell'd; only its Determination happens to be alter'd by ſome unlucky Accident; and you muſt recal the Blood to its Determination downwards. Here you have nothing to conquer but the Repercuſſion wrought, either, for Example, by a ſtopping Cold, or by a ſeizing Fright; and this the Bleeding in the Foot does; it determines the Blood towards the *Matrix*, and reſtores it to its former Tendency: But a Suppreſſion of a long ſtanding, being caus'd by the Congeſtion and Stoppage of the Blood in the Uterine Capillaries, our Buſineſs is not here about its Tendency towards the Veſſels, but about its Diſcharge and Enlargement from the Veſſels themſelves: The Matter is not now to attract the Blood downwards, but to clear away that which is already there, and which is there but in too great a Quantity; ſince it is this very Quantity itſelf that renders it there ſo very clogging and troubleſome. Dr. *Freind* agrees, that the Bleeding in the Arm practis'd in ſuch a Caſe, withdrawing a Portion of the Blood towards the ſuperior Parts, the Conduits of the Womb are thereby in Truth reliev'd; but, ſays he, the Diminution of the *Plethora* abating the Impetuoſity of the Blood, the Veſſels are not ſo diſpos'd to break, becauſe the Veſſels are leſs extended. This is another irregular Reaſon, which ſuppoſes we can't take from the Abundance of the Liquid,

quid, without abating aught of its Velocity; which is directly contrary to what the Author owns himself, a little before, in these Words: *Igitur triduò antè, consultum periodi tempus, secatur vena, ut tum præcipuè novus sanguini accrescat impetus, cum augmenti summam attigerit Plethora.* What Stress can we lay, after this, upon the Decisions of Dr. *Freind?* What can we reckon upon? To what Principle shall we adhere? The Sentiment of *Etmuller* is confirm'd by a famous Observation of *Riverius* upon a Woman whose Terms always stopp'd as often as she was blooded in the Foot, and very largely flow'd when she was blooded in the Arm: This Phænomenon agrees but little with the ordinary Ideas of Physicians. The Doctors of *Montpellier* have explain'd it by a Mechanism very well contriv'd, but incompatible with the System of our Author; whom one may defy, with all his Efforts and vast Capacity, to account for this Fact, related in the Second History of the First Century of *Riverius*'s Observations. This Woman, say the Doctors, being Plethorick, and attack'd with a Suppression, caus'd by the prodigious Mass of the Blood, which dilated the Vessels of the *Matrix* to such a Degree, that they could not sufficiently use their contracting Power; when, by bleeding in the Foot, the Blood was determin'd towards those Parts which were already over-charg'd therewith, the Clog

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was augmented; and Occaſion given to an obſtinate Suppreſſion; but when, by bleeding in the Arm, the Blood was invited to the ſuperior Parts, the Veſſels of the *Uterus* were diſengag'd: Now, their Plenitude and Diſtention being diminiſhed, they could contract and play with more Eaſe, and ſo procure the natural and periodical Evacuation, which is made thro' Iſſues of the *Matrix*. Dr. *Freind* intrenches himſelf in this Subterfuge, which is in a Diſtinction he makes betwixt a *Plethora*, which he calls ſolitary, and that which is join'd with a *Lentor*; and he ſays, 'tis only in this that the Precaution of *Lindanus*, noted in *Etmuller*, takes Place. He adds, that the Woman, of whom *Riverius* ſpeaks, was troubled with this Sort of *Plethora*; and upon this Bottom he approves the Indication which the *Montpellier* Doctors have taken, and ſubſcribes to their Practice. The Author then grows a little more mild towards *Lindanus*, and declares, that what is related by *Etmuller* takes Place in one Caſe; he is therefore in the wrong, to cry out ſo hard againſt it, and pronounce, without Ground, that there is not common Senſe in the Reaſoning of that Author. Here he ſhould make Reparation to his Honour: He agrees, that, in Suppreſſions, one bleeds firſt in the Arm, and then in the Foot; he aſſigns for a Reaſon of this, that the bleeding in the Arm augments the Velocity of

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the Blood, and bleeding in the Foot augments the *Plethora*, in regard to the uterine Veſſels. But is this what he ſaid at firſt? Might not one prove by his own Principles, that the Conſent he gives to this Practice is not very rational? Let us call to Mind what Dr. *Freind* hath ſaid; does not common Senſe require, that the more the Veſſels are ſwell'd, the more they are ſuppos'd to yield, crack and break? *Ne communis quidem ſenſus ferret, vaſa quò magis ſanguine diſtenta ſint, eo minùs eſſe ad cedendum facilia.* Now, in the Plethorick Woman we are talking of, when ſhe is blooded in the Foot, this augments the Swelling of the uterine Conduits, which are thereby more diſpoſed to break, and give way; yet the Doctors of *Montpellier* cauſed the Woman to be blooded in the Arm; and, by this Bleeding, one will ſay with Dr. *Freind*, it is true, that the uterine Paſſages are clear'd of their Stoppage and Oppreſſion; but as the Impetuoſity of the Blood languiſhes by the Diminution of the *Plethora*, the Veſſels are render'd leſs liable to break, becauſe they are then leſs extended; *Sectâ Brachii venâ, cum nonnihil ſurſum revellitur, liberantur quidem ab oppreſſione viæ uterinæ, ſed impetu ob Plethoram imminutam languente, haud ita facile diſſiliunt vaſa, quia minùs ſunt diſtenta.* The Slowneſs and the Viſcidity of the Blood is, according to our Author, a Reaſon not to bleed;

bleed; and Bleeding does no good in Suppreſſions, ſave when the Particles of the Blood are enough diſengaged, and not very tenacious; becauſe then they eaſily ſhift their Place, and are perſwaded to what he calls *Dimotion*. Now, he agrees, that the Blood of the Woman we talk of was viſcous, ſlow, and tenacious; how then, on his Principles, can he allow her to be blooded? One has only to compare what he has advanced with the Explications he now gives, on Occaſion of this Woman, to ſee that all don't agree, and that the Syſtem which is offered to us, as inconteſtable, and as a firſt Principle avow'd by every body, is not well ſupported. I ſhould have a great many more Remarks to make upon it, but I confine myſelf to this preciſe Reflection, which may furniſh many more: If the Flowing of the *Menſes* could be wrought by the Rupture of the Veſſels, it would be more particularly done when the Veſſels were the moſt frangible; now, the Veſſels are moſt frail, when they are the moſt extended; but they are the moſt extended, when they are the moſt gorg'd with Blood; and they are more gorg'd with Blood, by bleeding in the Foot, than by bleeding in the Arm; therefore, bleeding in the Foot ſtuffs them more with Blood, ſtretches them more, and makes them more frangible. Then, as bleeding in the Foot renders the Uterine Veſſels more frail, and more ready to be broken,

it ſhould, in the Woman we are ſpeaking of, provoke the monthly Flux. If this Flux is wrought by the Breaking of the vaſcular Tunicks, the Blood is exceſſively abundant, it has all that it can want to prevail; the Veſſels on their Part are dilated and ſtretch'd to the laſt Degree; ſo here is all that's wanting to conquer them; then, what hinders them from being broken? and ſince the bleeding of the Foot, in ſtretching them, diſpoſes them more than ever to burſt, is it not evident, that it favours, and ought even neceſſarily to produce the Flux, if this muſt be explain'd by the Rupture of the Veſſels? I omit ſeveral Irregularities, to finiſh this Diſcuſſion with two Words of Obſervation upon ſome Hiſtories of Fact, related by our Author, concerning Suppreſſion. The firſt Hiſtory is of a Girl Eighteen Years old, yet without her Terms, who complain'd of a great Pain in her Loins, Knees, and Ancles; ſhe had Difficulty in breathing, Squeamiſhneſs, and Gripes; her Heart, upon the leaſt Exerciſe, panted; her Complexion was lively and florid; her Pulſe weak and ſlow; ſhe was very much afflicted with theſe Symptoms for about Six Months: Dr. *Freind* did not find here any Indication for Bleeding, he only propos'd to break and refine, by Attenuants, the viſcous Texture of the Blood.

But is it not a wiſe Precaution, when the Veſſels are too much ſtretch'd, and the Blood

Blood too thick, ſizy and ſtiff, to unbend the Veſſels; and to diminiſh the Volume of the Blood, in order to facilitate the Action of inciſive Remedies, that they may lay more Hold upon the maſſive Humours? Is it not riſquing a great deal to undertake to rarify a Blood which we don't diminiſh in the Veſſels, whoſe Sides we cannot further ſtretch, and all whoſe Space the Blood, by its Thickneſs, now takes up? Where then will be Space for it in its Rarefaction? But this is the Means, one will ſay, to make the Uterine Capillaries crack; but this is alſo the Means to burſt other Veſſels too: This Practice makes us juſtly fear the Rupture of other important Veſſels, and of conſequence terrible Hemorrhages. Beſides, it is enough, if we conſult the Motions of Phyſick, to perſwade us, that a Maſs of Juices, thick, groſs, glewy and compact, reſiſts too much the Action of Attenuants, and the Virtue of Inciſives, for them to be able to lay hold of, penetrate, and thruſt themſelves thereinto: They can do no more in this Caſe, but ſhove, ſtruggle, and rummage in this Maſs, inſtead of inſinuating nicely into the Pores, wriggling ſubtilly, and without Noiſe, into the Interior of the Subſtance, ſo to ſeparate with as much Efficacy, as little Diſturbance, the Particles thereof. Bleeding, which is preparative to the Uſe of *Opium*, and which the moſt ſecures us in it, as has been clearly proved in the judicious Re-

flections that have been made thereupon; ſhould, for the ſame Reaſons, be a Preparative for Emmenagogues, and ſecure their Succeſs.

Bleeding then might have been apply'd in curing the ſick Perſon in Queſtion; every thing ſeem'd to indicate this, and, above all, the Difficulty of breathing, the Palpitation of the Heart, and the ruddy Colour of the Face; but the Obſtruction which appear'd in the Region of the *Matrix*, whither the Blood had flow'd with too much Precipitation, and where it had contracted a powerful and well-knit Body, requir'd the Bleeding to be not in the Foot, but in the Arm; therefore it ſeems, that had the Patient been bled in the Arm, one might have thereby freed the lower Parts, that were gorg'd, and, as it were, ſuffocated; and, by un-corking them, one might have engag'd them to yield readily to the deſired Evacuation. Dr. *Freind*, however, declares, that he did not think fit to employ this Remedy, by reaſon of the Weakneſs of the Girl, and becauſe he apprehended, by this means, he might diminiſh, inſtead of augmenting the Blood: But theſe are Conjectures too weak and light to divert from the Uſe of a Remedy indicated, in other reſpects, by ſuch preſſing Motives; the Weakneſs, above all, is not in itſelf, as we have already ſhewn, a good Reaſon to omit Bleeding. Our Author, in his third Obſervation, gives us the

Hiſtory

Hiſtory of a Waſher-woman, of a ſanguine Complexion, about Twenty Four Years old, who, in waſhing with her Terms upon her, was ſeiz'd with a Fit of Coldneſs; ſhe was alſo waſhing her Legs with cold Water; wherefore, the Flux having been here repell'd by the Cold, her Terms diſappeared for a Year, without any great apparent Conſequence. Dr. *Freind* accounts, by her great Fatigue and Labours, for the little Prejudice this ſeem'd to do her Health: But, about the End of the Year, ſhe felt a very conſiderable Change; ſuch as, a great Heavineſs and Weakneſs, the Action of the Stomach infeebled, the Function diſorder'd, a Pain in almoſt all her Limbs, a Cough, a Difficulty of Breathing, a Paleneſs, a Swelling of her Legs, where ſo hard a Tumor bred, that it was impoſſible, by any Plaſter or Cataplaſm, to ſoften it, or to bring it to Suppuration; and her Pulſe became feeble, and languiſhing. The Patient would have prevented all theſe Accidents, if, at the Time of her Flux's Repercuſſion, ſhe had got herſelf blooded in the Foot, according to the Remark of *Lindanus*, and the Reflections of *Etmuller*. Dr. *Freind*, who, in all Likelihood, did not ſee the Waſher-woman, but in the Time of the inveterate Suppreſſion, took from the Tumor an Indication to make her be bled in the Arm; which he owns did no great good; but bleeding in the Foot, tho' a long time after

the Interruption of the Flux, wou'd perhaps have had better Succeſs, in regard to the Source of the Suppreſſion which ſeems to require this Bleeding, and which we the more readily believe, as the Blood ſhews no Appearance of gathering, ſlackening and Congeſtion, in the Uterine Conduits; and if it don't flow that way, this ſeems to be not ſo much through any Clog or Impediment that might be there contracted, as for want of its being determined towards thoſe Parts. And what juſtifies this Thought of mine is, the Remark it ſelf of Dr. *Freind*, who explains how the Suppreſſion might have been ſo long a Time inoffenſive, by the great Exerciſe of the Waſher-woman, which did not allow much Time for the Blood to ſojourn, ſtagnate, corrupt, and ſtick in the Uterine Region, ſo toſt and jumbled as it was, and by Conſequence render'd more tranſpirable by the Woman's Agitation. There ſeems then nothing here wanting to the Blood, but a proper Determination towards the *Matrix*, which is favour'd and promoted by bleeding in the Foot, and that ought here to have been done according to the Notions I offer; which, after all, are but Conjectures I venture to make, and ſubmit, with all my Heart, to the Judgment of Phyſicians, among whom Dr. *Freind* ſhines in ſo diſtinguiſh'd a Rank. This able Phyſician, who judg'd it not convenient at firſt to uſe this Bleeding, did uſe

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it towards the End of the Diſtemper, after Purgatives and Emmenagogues, to give the finiſhing Stroke to the Cure, and ſo compleat his Work. Four or Five Days after this Bleeding, her Terms appear'd, the Patient recovered her roſy Colour, and all the Accidents vaniſhed. Now we have nothing left to do, but to apply to the Emmenagogues the Inconvenience that Dr. *Freind* finds in bleeding, in Relation to the Suppreſſions: This will pin up the Basket, and ſhew that his Principles claſh, and that his Syſtem, tho' diſplay'd with all the Clearneſs, and prov'd with all the Reaſons that it is ſuſceptible of, don't appear well ſupported. When, ſays he, after *Bellini*, * a ready Removal of the Blood follows after bleeding, or when the Blood is ſo rarified, that its Particles are diſ-united, and eaſily divided one from another, this Liquor acquires a Velocity that fortifies its Power, becauſe the animal Spirits, enlarg'd and free, flow to the Heart in a chearful Abundance, and the Blood, broken and ſubtiliz'd, makes leſs Reſiſtance againſt the Action of the Veſſels: But, if no Removal follows, the Quantity of the Blood being abated, the Velocity is ſo likewiſe; and ſo the Blood loſes of its Force. It were to be wiſh'd, inſinuates Dr. *Freind*, that *Bellini* had eſtabliſh'd a conſtant Token, a certain Sign of this Conſtitution of the Blood, that

* Cap. 11.

ſuffers

ſuffers a Removal by bleeding, and of that other which does not ſuffer any thereby: becauſe, for want of knowing this State and Diſpoſition of the Blood, the Phyſician cannot be ſure in what manner Bleeding will change it, and modify its Motion for the better or the worſe. By reaſon of this Uncertainty and doubtful Succeſs of Bleeding, we muſt abſtain therefrom, unleſs the Violence of Accidents inforce it: For if, in letting Blood, we render it more ſlow and compact, not only fewer animal Spirits will ariſe from it, and ſo the Stroke of the Beating of the Heart will be the more weak, but the Obſtruction that afflicts the Capillaries, and holds 'em Captives, will gather new Force. Therefore, in the Beginning of the Suppreſſion, Bleeding does not ſeem to be indicated, unleſs one plainly ſees the Means to break infallibly the compact Texture of the Blood, and to redouble its Force by renewing its Velocity; let us examine, according to his Model, the Action of the Emmenagogues, that makes a Part of the Alteratives, and then conſider, after * Dr. *Freind*, if the Action is more certain, and the Succeſs more aſſured. How, ſays he, can the ſame Force ſurmount ſuch different Reſiſtances? How can a Remedy act in ſo uniform a manner, when the Subjects upon which it operates are ſo unlike? There is nothing more ridiculous than to

* Cap. 14.

expect

expect from a Medicament a conſtant Action, a faithful Energy, an infallible and permanent Virtue, ſince it is not ſtrange or repugnant for one and the ſame Remedy to produce contrary Effects. Suppoſe, for Example, the Diſpoſition of the Blood be ſuch, that the greater Part thereof is extremely vitiated, and the *Lentor* too obſtinate to be conquer'd by the Force of Attenuants; in this Caſe, if we apply a Reſolutive or Subtiliſant, it has no Effect but upon the thinner Part of the Blood, which it melts and refines, till it makes it paſs in abundance thro' the Strainers, that is, thro' the Glands and the Filtres of Secretion; ſo, the moſt ſubtle, or fineſt Parts of the Blood being diſcharged by the Force of the Medicine, the Remainder of the Maſs will thereby be but the more compact, thick, and cloſe. Do but obſerve, how the Diaphoreticks, thoſe powerful Attenuants, do ſometimes even augment the *Lentor*, and the Groſsneſs of the Humours, as we ſee by Experience. *Quomodo enim eadem vis diverſa longè momenta queat pervincere? Quomodo ſimilis ſemper eſſe poſſet agentis energia, cùm ita diſſimilis prorſus ſit corporis in quod agitat Natura? Conſtantem hanc a medicamentis ſperare efficaciam, ita ridiculum eſt, ut nihil mirum ſit, ſi etiam ab eodem medicamento educi poſſit effectus contrarius: Concipiamus enim eam eſſe ſanguinis craſin, ut pars ejus longè maxima in-*

ſigniter lenteſcat, cohæret æquè in eâ momentum validius ſit quam quæ ab attenuantium viribus reſolvi queat. In hoc caſu, ſi adhibeatur medicamentum reſolvens, eam quidem ſanguinis partem, quæ minus lenteſcit, ita fundit & attenuat, ut per glandulas excretorias uberiùs extrudatur: ita medicamenti vi, eliminatis particulis tenuioribus, craſſior erit reliqui ſanguinis compages: ad hunc modum, uti & docet experientia, lentorem aliquando augent Diaphoretica. Yet muſt we not exclude Reſolutives, becauſe of their doubtful Succeſs, and uncertain Iſſue: Dr. *Freind* makes often uſe of them, without Heſitation, at the ſame time that he ſhould either abſtain from them, or not uſe them, but with ſuch Precautions as himſelf preſcribes in bleeding: We muſt beforehand be aſſured of the State of the Blood, know, in that Point, what we have to go upon, have Tokens that denote the Degree of *Lentor* or Viſcidity requiſite to be carried off by the Emmenagogues. As we are admoniſhed, that we muſt have ſome of theſe Signs that mark to us the Degree of Thickneſs capable of being corrected by the bleeding, for want of which the firſt Reliefs are no more practicable than the laſt; they are both alike uncertain: Then, upon what Account is the one preferr'd to the other? This ſhould have been clear'd up; Dr. *Freind* ſhould have inſtructed us in this; and in this, as well as many other things, but

but for the Death of the illuſtrious Author, we had Reaſon to hope from him further Lights. He flatters himſelf, that this fine Phænomenon about the Courſes can no way be explain'd, but by his Principles; yet I have ventured upon other Principles, and the Syſtem of the red Part of the Blood being engag'd in the Canals of its white Part, the prevailing Opinion of Dr. *Helvetius*; and which he has ſo much illuſtrated on the Subject of the Small Pox, of which he has ſo learnedly and uſefully treated: A Syſtem! which gives Light into the Explication of the Hemorrhages and Inflammations, and which ſo perfectly agrees with the animal OEconomy, and natural Mechaniſm. This Syſtem, I ſay, yields in nothing to that which Dr. *Freind* has given us, not only as the beſt, but as the only one. From the Principles I have already laid down, every one may make his Remarks upon the other Parts of the Author's Book, which I have not touch'd; and 'tis likely, that with how much the more Attention and Care one ſhall apply to this, the more the Weakneſs of his Reaſoning will appear, and the Uncertainty of his Hypotheſis. From the Reflections that have been hitherto made, it may be gather'd, that 'tis, by no means, an indifferent Matter in Practice, to adopt indifferently, the Syſtem of the Rupture of the Veſſels, or that of the Intruſion of the Blood into the lymphatick Canals: It is of

the higheſt Conſequence, to chuſe either the one or the other, to liſt on one Side or the other, and to appear more than ordinarily engaged or concern'd therein. If the Diſpute here was only about ſome inſipid, barren Point of Speculation, amuſing perhaps to the Curious, but altogether uſeleſs, and without Influence on Practice, thoſe who regard things only as they are uſeful, might perhaps ſlumber over it: But as our Buſineſs here is about a capital Point, which affects and concerns Practice to the higheſt Degree; ſince in the two Hypotheſes the Manner of Cure is quite different; this ought to awake the Attention of all Practitioners, inſpire them with an extraordinary Reliſh for the preſent Subject, and rouze them totally out of their Indifference. Some will perhaps attack the fundamental Principle of theſe Reflections, which is, that the Blood owes its Velocity to the Impulſe, and ſyſtaltick Virtue of the Solids; they will tell me, that the Veſſels may be enormouſly diſtended and ſtretch'd to Exceſs, and ſtill the Fluid which they contain may move on with Impetuoſity, by virtue of the Medicaments that act upon it, that break its Texture, bruiſe its Maſs, correct its Viſcidity, quicken its *Lentor*, and ſeparate its Parts; whence may reſult an Increaſe of its Force, a Renewal of its Velocity, and all this independent of the Oſcillation of the Veſſels, which ſtill remain ſtretch'd, conſtrain'd,

ſtrain'd, and, as it were, captive. This has been proved by a Number of Experiments: A Mixture has been made of the Blood newly drawn from the Artery of a Dog, with ſeveral Druggs, which Mixture has given Occaſion to various Phænomena. The Blood mixt with the Spirit of Salt Armoniac, was of a beautiful Red, and fine Conſiſtence, mixt with a Decoction of Savin, or Horehound, it appeared of a deeper Red, and of a finer Subſtance; with *Sydenham*'s Liquid Laudanum, it was of a brighter Colour, than with the Decoction of Savin, tho' not of a much finer Subſtance; with the Diſtilled Water of Rue, or Wormwood, it continued very fluid from the Firſt till the Thirteenth of *February*. A Mixture was alſo made of the Serum of Human Blood with the Tincture of Aloes drawn with Mint Water, with a Decoction of Savin, a Decoction of Gentian, Spirit of Tartar, of Saffron, of Turpentine, of Guaiacum, and of Hartſhorn; the Oil of Turpentine, of Guaiacum, of Lavender, and of Cloves: By means of theſe Druggs ſucceſſively apply'd, the Serum held fluid many Days, but nothing render'd it near ſo fluid and ſo fine, as the Decoction of the Jeſuit's Bark. We have been alſo aſſured of the Working of Medicines upon the Blood, by Injections and Intromiſſions into the Body of a living Animal: We need but conſult thereupon the 14. Chap. of the *Emmenology* of Dr. *Freind*, which

which proves by unqueſtionable Experiments, that the Blood is altered, changed, modified, attenuated, broken, refin'd, ſet in Motion, and render'd fluid, by the Power of Emmenagogues: Therefore the Fluid having another Mover than the Oſcillation of the Solid, may be moved rapidly, impetuouſly, and precipitately, even when this Oſcillation is languiſhing, feeble, and impotent: Therefore the Blood may have the Advantage of Maſs, Velocity, Preſſure and Percuſſion: Therefore, the Veſſels being enormouſly dilated, weakened, and conſtrained, may be forc'd by the Action of the Blood, an Action which it has independent of the Veſſels, and from which they can draw no Advantage; a Stroke conſequently which it can give them, without being accuſed of Ingratitude, and without incurring the odious Reproach of turning its Power againſt thoſe who gave it. This Stroke the Veſſels will be unable to reſiſt, and be forc'd to yield to it, broken, diſarm'd, and overwhelm'd, not by the Power which they (the Veſſels) lend to the Blood, ſince they have none to lend, but by that which the Blood has borrowed elſewhere. This is what may be objected againſt me, and certainly I have given the Objection all its Weight, and wiſh heartily it might ſcreen Dr. *Freind* from any Attack. I agree, that Medicines act upon the Humours, and inſpire them with divers Qualities; but it is proper

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to obſerve firſt, that this is not always immediately, nor without the Participation of the Solids. The firſt Operation of Remedies inwardly taken is upon the Stomach, and thence ſpreads thro' the whole *Genus nervoſum*, whereof this *Viſcus* is a Part; and conſequently it is not ſtrange, that the Stomach ſhould tranſmit the Modifications and the Impreſſions which it receives. The quickeſt Operation of Medicines, and the briskeſt Revolutions they cauſe, are due to the ſudden Emotion which the Solids acquire, when they are affected by the Medicines. Smoke raiſes the Vapours, and cures them; the Sprinkling of cold Water, the bare Taſte of good Wine, recovers from a Swoon, recals the ſtraying Soul, and reſtores the loſt Faculties. Remedies oftentimes make no Change in the Blood, but by means of the Solids, which they firſt change, and whoſe Tone they alter, ſo that they become more elaſtick, or more moderate, according to the Action of the Remedies, that work and drive on the Fluids with more or leſs Heat; whence enſues in the Blood more or leſs Refinement and Celerity. Daily Experience proves the great Share the Solids have both in the Diſeaſe and in the Cure; they are the Lords of the Animal OEconomy, the Principle of every Good, and of every Evil there.

But now, after thoſe general undetermined Ideas, which it is good to advance, let

let us descend to something more particular, which more nearly regards the Difficulty we have been forming. Upon this I have two Reflections to make; the first, that the Virtue of Medicines has nothing at all to do with a State of Health. In the Case of an ordinary and natural Flowing, the Blood then makes its own Way through the Tunicks of the Vessels, yet is not put in Motion, nor push'd, nor made fluent, refin'd and fluid, by the Power of the Medicines; therefore, if it has Celerity, it owes this to the Oscillation of the Solids, which, with redoubled Strokes of Systole, impart to it its present Motion, and accelerate its Flowing: For, I believe, it will be granted, without Difficulty, that the Blood which is not broken, agitated, and attenuated, by Remedies, can be no otherwise so, but by the Means of the Vessels; so that, if it is in Action, it must owe this Action solely to the Spring and Vibration of the Solids; what other Cause, on the present Hypothesis, can move the Blood? what other Mover, what other Principle can give any other ways Agitation to this Fluid? Does it move itself? Has it in its own Stock wherewithal to put itself in Play? Does it draw its Power from its own Choice? I appeal to Dr. *Freind* himself, who undermines the Foundation of the Blood's intestine Power, and who, from the Beginning of his Work, gives a mortal Blow to the Fermentation

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already ſo much diſcredited, and the finiſhing Stroke to the Diſgrace of this unhappy Hypotheſis, by the deſolating Refuſal of his Protection to it, leaving it helpleſs in black Deſpair, and reducing it to a Condition utterly abandon'd. The abſurd Hypotheſis, ſays he, of the Fermentations and Leavens is ſcarce any more in Vogue; 'tis even a long Time ſince the ſoundeſt Part of the Learned have baniſh'd it out of their Writings: *Sed exolevit ferè hodie abſurda illa de fermentis Doctrina, & a ſaniſſimis ſaltem ſcriptoribus, jamdiù exploſa eſt.* See then this Idol of the new Phyſick, and of the modern Philoſophy, neglected, abandon'd, overwhelm'd! What a Spectacle! a Doctrine which attracted ſuch a Crowd of Partiſans becomes deſerted and forlorn; the predominant Hypotheſis, the ſovereign Doctrine, the reigning Opinion, is falling into Widowhood, into Contempt and Slavery; is made a Tributary, languiſhing in Obſcurity, and ſighing all alone, finding none to comfort her in her Miſery, and to raiſe her from the Ground, where ſhe miſerably grovels: Even thoſe that liſted under her Standard are aſham'd to defend her Cauſe, quit her Side, and leave her in the Lurch. The Ways by which it was pretended to explain all the *Animal OEconomy*, Ways beaten and rebeaten with ſo much Pomp and Solemnity, are now no more frequented; the Niches of the Ferments are deſtroy'd, and the Fer-

ments, even the Inſtruments of Fermentation, are taken from her, poor Thing! ſhe has not allow'd her a Space ample enough to make her Puſhes and her Sallies in; pent in Canals too ſtreight, in Places too cloſe for her; where ſhe undergoes the Cruelty of being oppreſs'd and ſtifled, deſtitute, in theſe inextricable Difficulties, of all Relief, and unable to defend herſelf; all her Charms are fled from her; and her armed Adverſaries have laid violent Hands on all that belongs to her, depriving her of all that ſhe can deſire, or that can give her any Advantage. O ye that have run thro' all the different Hypotheſes! conſider if there is one of 'em all ſo cruelly treated, and that languiſhes in a Situation ſo very deplorable as hers. What! ſays one, the Doctrine of the Ferments is no more in Uſe! and the *Literati* have hiſs'd it off the Stage; ſad Caſe! Is this the Fermentation that a while ago made ſuch a Figure! Can you know her again by this Picture, you that uſed ſo to idolize her! you that ſtill are ſo fond of her, is it poſſible, Sirs, that this can be the Object of your Delight and tendereſt Addreſſes! This Offal, this May-game, this Bitch with a Bottle at her Tail, can this be your Favourite Miſtreſs! Can you own this your Idol in ſo diſguis'd a Metamorphoſis! Fermentation is then in Diſgrace with Dr. *Freind*; and according to him, with all the beſt Authors too. Then he can't admit

in the Blood a Virtue proper to make it circulate; it is therefore allow'd to believe, that the Motion, the Swiftneſs of the Blood, in the natural State of Health, is the Effect of the Action of the Veſſels that preſs, puſh, and hurry it; and the Acknowledgment of Dr. *Freind*, who rejects this Fermentation, leads to this Thought, conducts to this Conſequence. This juſt comes to what we have been demonſtrating, that the Blood cannot make an ill Uſe of the Celerity which it has from the Veſſels, thereby to break theſe; whence it follows, either that the Terms can never naturally flow, without the Aid of Medicines; or that the Velocity of the Blood is not neceſſary to the Flux, but is even contrary to it. If the Fluid naturally holds its Celerity from the Solid, which haſtens its Way; and if, by Virtue of this Celerity, the Fluid cannot break the Solid, as hath been prov'd; then, of neceſſity, Nature alone cannot puſh the Terms, unleſs it be the Abundance, and not the Velocity of the Blood that makes 'em flow. Yet Dr. *Freind* makes the principal Mover of the Flux to conſiſt in the Swiftneſs of the Blood; and the principal Hinderance, and ordinary Cauſe of the Suppreſſion, to conſiſt in its Slowneſs. So that it does not ſeem poſſible, on the Principles of this Author, to explain how the Flowing of the Terms is procur'd by Nature alone. The Second Reflection I have to make is, That

the Fluids attenuated, bruiſed, and broken; by the Force of Emmenagogues, do not ſo ſtrongly oppoſe the Action of the Solids; the Blood render'd ſupple, flowing, and docile, by theſe Medicaments, ſuffers itſelf to be led, ſubdued, and jerk'd along by the Veſſels, which, finding no more, as before, an invincible Obſtacle in the groſs and compact Maſs that the Remedies have reduc'd and ſubtiliz'd, recover their Eaſe, reſume their Vigour, and ſet themſelves at Liberty. Whence we ſee, that the Emmenagogues at the ſame Time that they ſet the Blood at large, ſet alſo the Veſſels at their Eaſe too. Now, being at their Eaſe, 'tis evident, that they are not ſo liable to be broken; yet the Blood, upon which the Remedies act, might be ſo abundant, that it could not ſwell and rarify, without forcing the Canals to burſt: In this Caſe, if the Medicines melt and rarify it, it ſeems that they will infallibly occaſion the breaking of the vaſcular Tunicks, which, as they cannot ſtretch any further, muſt needs crack. But we have obſerv'd, that the Blood, arriv'd to ſuch a Pitch of Abundance, to ſuch a Degree of Groſſneſs, is not fit to be wrought upon by Attenuants, becauſe theſe can lay no Hold of it: We have obſerv'd, in this Circumſtance, the Uſefulneſs, and even the Neceſſity of Bleeding, to ſet the Attenuants at Work; therefore, in an exceſſive *Plethora*, in an extream Viſcidity, Emmenagogues,

gogues, being equally as impotent as the Veſſels, are as little able to do any thing as theſe are. That which hinders theſe from ſtrongly contracting, hinders alſo thoſe from faſtening upon the thicken'd Humours; whence it ſeems to follow, that the Blood cannot apply even the Velocity which it receives from the Emmenagogues to break the Veſſels; becauſe the Remedies cannot animate it ſo much as it ſhou'd be, but with the Aſſiſtance of the elaſtick Veſſels. They do not indeed import Fluidity; but this is not progreſſive Motion, the Motion of Circulation, which is not to be obtain'd but by the ſyſtaltick Virtue of the Veſſels. The Blood attenuated by Emmenagogues, may well become Fluid; but it cannot acquire Velocity, ſave only by being puſh'd, beaten, and jerk'd along. According to Dr. *Freind*, the Stroke of the Blood is that which makes its greateſt Strength: Now, the Stroke, that is to ſay, the Briskneſs of the Shock, the Violence of the Percuſſion, does not preciſely come from the Fluidity; but, becauſe the Fluid is ſtrongly ſtruck upon by the Solid, which Blows it again retaliates, and, in its Turn, re-buffets the Solid; therefore, if the Veſſels were flat and unactive, in Torture, and in Captivity, and the Fluids left to the ſole Action of the Attenuants, theſe Fluids would not receive Force enough wherewith to ſtrike upon the Solids; they would acquire but an indolent Fluidity,

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only a Dif-union of their Parts, a Diſſolution of their Maſs, incapable of any great Effects; they could not contract that Impetuoſity neceſſary to give Strength to their Blow, Briskneſs to their Shock, Power and Force to their Percuſſion. Our Author himſelf deduces the Velocity of the Blood from the vehement Pulſation of the Heart, and of the Arteries; a Pulſation produc'd, as he ſays, by the Affluence of the animal Spirits: Whereas, theſe animal Spirits themſelves can be nothing but the Work and Effect of the Spring of thoſe Parts that agitate and puſh them to the Degree of Fineneſs which they have. Therefore the Velocity of the Blood is the Effect of the Expulſion of the Veſſels; wherefore, it cannot make Uſe thereof to break them: Therefore, if Emmenagogues excite the Flux of the *Menſes*, this cannot be by the Velocity which they impart to the Blood; but rather by the Swelling, the Rarefaction, the diſorderly Turgeſcence which they produce therein; by the Means of which the vaſcular Tunicks give way, not to the Force of the Percuſſion, but to the Exceſs of their own Dilation. Another Difficulty might be ſtarted againſt me; the Veſſels, in the Effort they make to drive on with Swiftneſs and Percipitation the Blood ſubjected to their Power, may they not break themſelves? Are they not even more liable to be broken, being active than unactive; by

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Exercise, than Indolence; by Fatigue, than Repose? Are not they who labour hardest, most expos'd to the Misfortune of bursting Veins and Arteries? Have not we seen Vessels broken by the Shocks of a violent Cough, and the cruellest Hemorrhages produc'd by the Heat of a burning Summer? It is not therefore strange, that the uterine Vessels, tho' vigorous enough to animate the Blood, shou'd yield to the Blow of which themselves are the Cause; and their Vigour, far from fortifying and defending them against their Bursting, only renders them more proper, more fit and dispos'd for it. I own the Vessels may be broken by their own Pains and Fatigue; but it must be also confess'd, that it is by Accident when this Misfortune happens, and that these are Cases for which none undertakes to give invariable Rules, and Geometrical Demonstrations, such as Dr. *Freind* has attempted to give us; there is too much Uncertainty in the Rupture of the Vessels; and 'tis too fortuitous a Case, to draw and deduce thence an Effect so sure, so constant, so natural, so regular, as the Phænomenon of the Monthly Courses. Besides, the Rupture of the Vessels is not a thing so common as one imagines; bleeding at the Nose, spitting of Blood, Accidents very frequent and vulgarly attributed to Ruptures, don't so much denote broken Vessels, but rather such as meet discharging Canals, that terminate in the Sanguines; and do not so much declare the Extravasation of the Blood,

as

as its Paſſage into the Emunctories. Why, indeed, ſo few Ruptures in the ſlendereſt, tendereſt Fibres within the Body, which are remote from Places of Diſcharge, whilſt we diſcover ſo many and ſo often juſt by the Iſſues, near the Excretories, and in the Blood-Veſſels, moſt within the Reach of the Outlets, moſt known and beſt remark'd? This Obſervation juſtly intimates that which is attributed to the Rupture of the Canals, is uſually but the Effect of the Intruſion of the Blood into the Lymphaticks. Theſe ſeem to me the ſtrongeſt Objections that can be made againſt me; and the proper Anſwers to be made to them: Dr. *Freind*'s Syſtem, therefore, cannot be defended, and ſtill lies under the ſame Difficulties.

Yet, after all, can't flatter myſelf, that I have, with any Solidity, taken up ſo learned a Man as Dr. *Freind:* What I have hitherto advanced I look upon it rather as a Web of Objections to be anſwer'd, than as a Criticiſm to be redoubted: If I have not attack'd my Author with Advantage, I ſhall at leaſt have the Glory of having ſtudied him with Application. It is always good to betake ourſelves to the beſt Authors, 'tis pleaſant to contemplate their Beauties; and even when we attack them unſucceſsfully, yet don't we apply thereto, without reaping an Advantage. But, ſhould my Objections be made with ſome Foundation, I would not take it amiſs to be compared

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to a rebellious Child, who battles its own Nurſe, becauſe, by her ſucculent and well-condition'd Milk, ſhe has ſupplied him with the Strength to do it. Foſter'd by the Reading of Dr. *Freind*, imbu'd with his Leſſons, improv'd by his Knowledge, enlighten'd by his Light, I have made uſe thereof againſt himſelf. I own, I ſhould have had no Succeſs in engaging him, if I had not improv'd by ſtudying him; if I had not gather'd my Knowledge from reading and meditating him; and if, before I made War upon him, I had not learnt my Diſcipline under him. If we gain a Victory over good Authors, 'tis becauſe themſelves ſupply us with the Means to gain it.

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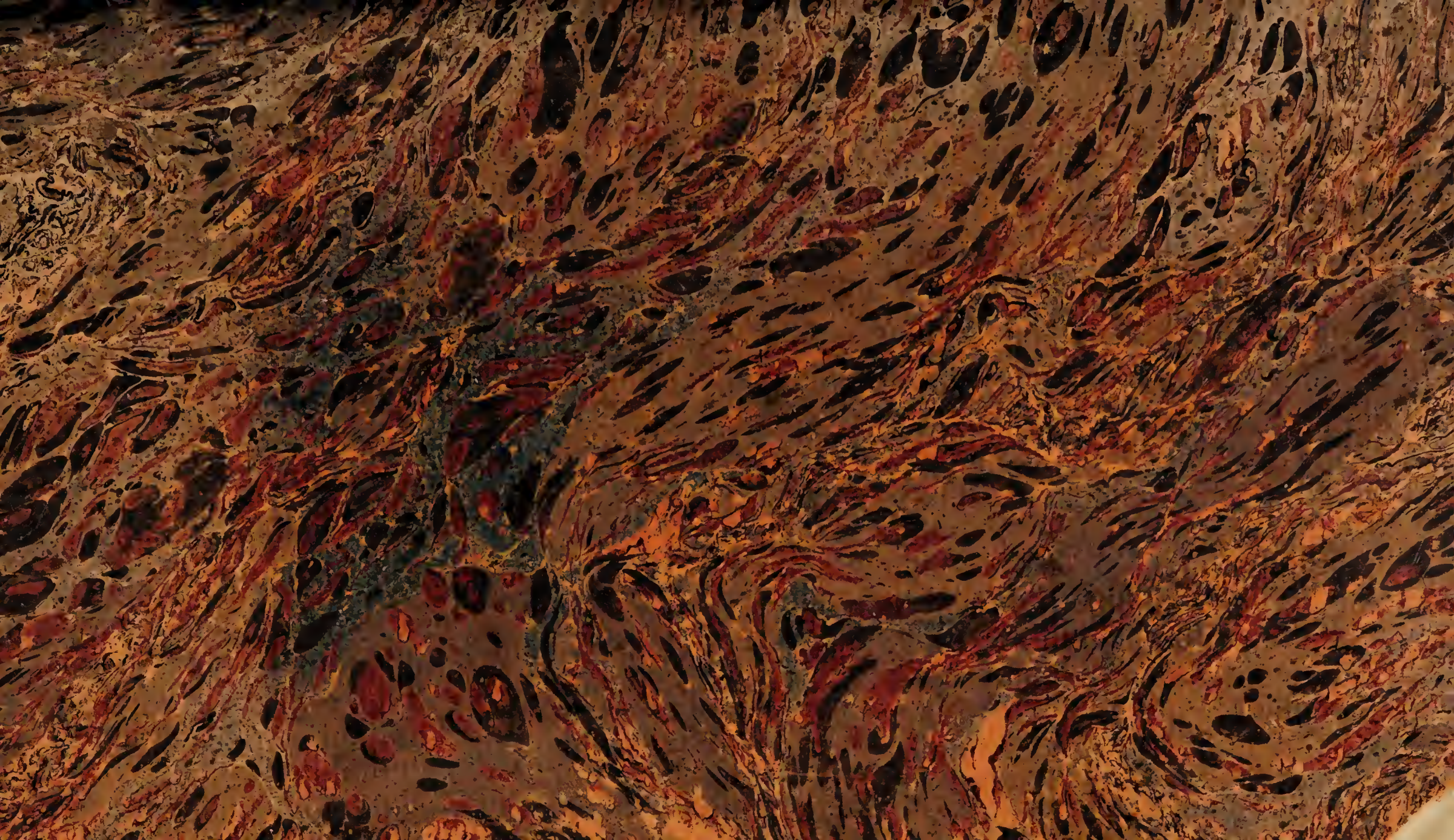
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